DATA-DRIVEN ASSESSMENT OF CHINESE ECONOMIC INFLUENCE

by

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A thesis submitted to Johns Hopkins University in conformity with the requirements for the degree of Master of Global Security Studies

Baltimore, Maryland

May 2020

Abstract

In recent years, China has engaged in a long-term effort to erode US dominance in critical industries and thereby undermine US influence in important world regions. If unaddressed, this could result in a future in which the United States' ability to pursue its interests abroad is inhibited by an emboldened China and its capacity to ensure the security of its allies in Asia will be increasingly questioned. Given the dire implications of such a scenario, unchecked Chinese economic influence is an existential threat to the entire Western-led international order. In this paper, I approach this issue from a quantitative perspective and offer a data-driven methodology which can provide US intelligence analysts and policy makers with insights into the nature and risks posed by China's economic activity around the world. Through the application of disparate datasets, the methodology calculates vulnerability of countries to Chinese economic influence and highlights notable trends in global Chinese economic activity.

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Introduction

According to the World bank, China's GDP grew at an average annual rate of 10% since the 1978 reforms. As of their 2018 global GDP figures, China has a GDP of around $13.6 trillion (USD), making it the world's second largest economy behind the United States with a GPD of around $20.4 trillion (USD).[1] Given China's current position as the world's second most powerful global economy and its recent demonstrations of state power seemingly directed at the United States and its democratic allies, China's heightened economic influence has become an issue of increasing concern to US policy makers and US national security agencies. As was prominently highlighted throughout the latest Worldwide Threat Assessment of the US Intelligence Community published in January 2019, China is one of primary security threats currently facing United States and poses significant strategic risks to US global influence and the pursuit of its foreign economic, military, and geopolitical interests. The report particularly highlights the role of Chinese economic influence in its overall assessment of the threat represented by China's expanding global reach:

"*We assess that China's leaders will try to extend the country's global economic, political, and military reach while using China's military capabilities and overseas infrastructure and energy investments under the Belt and Road Initiative to diminish US influence. However, Beijing is likely to face political pushback from host governments in many locations, and the overall threat to US and partner interests will depend on the size, locations, and offensive military capabilities of the eventual Chinese presence*."[2]

Due to the shared consensus of the US Intelligence Community in this interagency report regarding China's position as one of the most pressing national security threats currently facing the United States, as well as the notable mention of the risks directly associated with heightened Chinese economic influence, I focused my research on evaluating Chinese global economic activity and assessing country risk exposure to Chinese economic influence. My professional background in data-driven intelligence analysis prompted my primary research question that I attempt to sufficiently answer throughout this paper: *How can the US Intelligence Community leverage economic data to identify notable trends in Chinese global economic activity and apply this information to objectively assess relative country vulnerability to Chinese economic influence?*

I approached this complex question by identifying several disparate sources containing transactional-level data on China's global economic activities. I then developed a robust quantitative methodology designed to collectively combine the information included in the identified data sources and generate numeric scores reflecting each countries individual risk exposure to Chinese economic influence which I then used to provide 192 countries with a global vulnerability ranking in descending order from highest to lowest risk. Through the findings of supplemental data analysis and targeted open source research intended to properly contextualize and assess the veracity of my country vulnerability scores, I identified compelling trends and similarities in Chinese economic engagement across countries with comparable vulnerability rankings, indicating that the different compositions of Chinese economic engagement types observed in particular countries are reflective of China's preferred vehicles of economic influence and seem to consistently correspond relative to the degree of calculated risk scores. I also conducted comparative analysis of country vulnerability rankings with UN voting data and observed a correlative relationship between calculated country risk scores and country vote cohesion with China on resolutions brought before the UN General Assembly.

In addition to the academic value of my research, I assert that an improved version of my methodology can also provide tangible benefits and operational uplift to national security analysts supporting the China-focused missions and related collection efforts of the US intelligence community. Once enhanced through automation, live data streaming, change-detection alerting, additional economic data sources, and classified government information, I have high confidence that my methodology can be used as an effective tool by China-focused departments and mission centers of both civilian and military agencies within the US intelligence community, capable of supporting future efforts to mitigate the risks associated with expanded Chinese influence efforts and assist in the collective defense of critical US foreign interests currently threatened by malign Chinese economic activities.

Literature Review

Due to China's swift ascension to its current status as the world's second largest economy and its expanding global influence, there has been much academic discussion specifically focused on the topic of Chinese economic influence. Although opinions vary on China's global economic activity and its relationship to expanded Chinese state influence, scholars generally agree that it is an issue of increasing concern which represents potential risks to the sovereignty of vulnerable world economies, poses ongoing challenges to US economic dominance, and threatens the longevity of the post-WWII international order led by allied Western democracies.

In the qualitative studies "*Awakening Giants: Feet of Clay*" by Pranab Bardhan and "*Chinese Economic Statecraft: Commercial Actors, Grand Strategy, and State Control*" by William J. Norris, each author examines China's rapid economic growth and their expeditious rise to a global economic superpower, however, Norris and Bardhan do so within different contextual frameworks. While Norris examines the challenges and security threats posed by Chinese economic influence as well as the scope of its overall comprehensive strategy to depose the economic dominance of Western Nations, Bardhan seeks to conduct a comprehensive analysis of China's economic achievements outside of the security-based perspective of Norris. Bardhan instead focuses on Chinese economic growth in terms of the structural and institutional issues it faces moving forward. In doing so, Bardhan provides a fact-based and thoroughly researched economic outlook for China which allows for a grounded, realistic depiction of future growth. While Bardhams conclusions could be used to inform a future US and Western response to the threats of Chinese economic influence, his work moderates the reasonable, yet sometimes alarmist predictions of Norris. Bardhan concludes that China's authoritarian system provides mixed economic benefits but is not necessarily better nor more sufficient for economic development than the economic benefits provided by democratic systems of governance.

For instance, Bardhan points out democratic societies, riddled with social and economic inequalities and conflicts, experience increased organizational difficulties when generating support for the collective action needed for lasting change and is frequently confronted with populist obstacles when attempting to incentivize long-term investment and implement institutional reforms needed for future growth. Conversely, in China's more homogeneous society with an

authoritarian governmental structure and minimal internal conflict, the Chinese leadership can be more decisive and purposeful in pursuit of economic reform and implementing long-term strategies, such as expanding its global influence, however, in the absence of institutionalized checks and balances present in democratic rule-based systems, there is a certain fragility in authoritarian governance related to the dangers of heavy-handed overreactions in responses to economic crises. Norris similarly characterizes the benefits of China's authoritarian system but puts lets emphasis on the inherent weaknesses pointed out by Bardhan and instead, highlights China's comparative advantages to western democracies when implementing economic strategies spanning several decades. According to Norris, the relatively short-term political cycles of democratic systems not only inhibit the United States and other Western countries' ability to successfully implement and maintain economic grand strategies similar to that of China, but pose significant challenges to democratic governments when attempting to enact policies capable of countering China's expanding economic influence and effectively mitigate the future threats posed by the maturation of China's existing grand strategies.

In another qualitative study, "*The BRICs and the Washington Consensus: An Introduction, Review of International Political Economy*" by Cornel Ban and Mark Blyth, the authors examined the relationship rising economic powers such as Brazil, Russia, India and China (BRICs) have with the Washington Consensus (WC)[i] paradigm and what their success implies for the future of the global economic order.[3] In conducting this research, Ban and Blyth attempt to fill the academic void of scholarly work aimed at analyzing the proliferation of WC ideas and economic policies in relation to the rise of the BRICs economies. The authors developed two central research questions they deemed critical in adequately exploring this special issue: "*What did the Washington Consensus look like in practice? And how have the BRICs appropriated, adopted, adapted, or abandoned specific aspects of this transnational policy paradigm?*".

In order to address these broad questions, the authors incorporated the literary works of several political scientists and sociologists as well as case studies on each BRICs country. The combination of diverse scholarly insights applied to the topic allowed for the authors to examine

[i] The Washington Consensus refers to a set of free-market economic policies supported prominent financial institutions such as the International Monetary Fund, the World Bank, and the U.S. Treasury. A British economist named John Williamson coined the term Washington Consensus in 1989. (Source: Intelligent Economist; URL: https://www.intelligenteconomist.com/washington-consensus/)

the evolution of the relationship between BRICs and the WC over time. According to their findings, Ban and Blyth suggest that the BRICs economies have engaged in selective adoption of WC concepts and institutions. The authors argue that these countries, particularly China and Russia, only incorporated certain concepts that effectively created the illusion of compliance with the WC paradigm to avoid scrutiny yet avoided adopting those that would reduce the degree of state control over their economic systems. The authors conclude that by doing this, BRICs economies have neither pioneered a post-neoliberal transformation, nor have they proved themselves to be committed to the WC paradigm to the same degree as the US and other large global economies.

While the qualitatively focused studies outlined above provide valuable insights and contextual insights into the role of economic activity in China's overarching strategy to expand its global influence, I found the existing quantitative works to provide more concrete evidence regarding the actual means of economic engagement China leverages to bolster its influence in foreign target countries. For instance, in the recent 2019 study "*China's Overseas Lending"* by Sebastian Horn, Carmen M. Reinhart, and Christoph Trebesch, the authors address the issue of Chinese "hidden debts" by evaluating the size, characteristics, and determinants of China's capital exports by analyzing global financial loan data.[4]

Through leveraging this data, encompassing 5,000 Chinese loans and grants to 152 countries from 1949-2017, this study found that 50% of China's lending to developing countries is not reported to the IMF or World Bank and represent "hidden debts" that distort and obscure policy surveillance, risk pricing, and debt sustainability analyses. Since China's overseas lending is almost entirely state-controlled, the authors argue that the standard "push" and "pull" drivers of private cross-border capital flows do not apply in the same way as they do for the lending activities of other countries. Therefore, these "hidden debts" can be used as an effective tool for Chinese economic influence efforts in vulnerable target countries that goes relatively unnoticed and does not receive the proper scrutiny of international monetary institutions and regulatory bodies.

In another recent quantitative study conducted by William & Mary's AidData Research Lab, "*Connective Financing: Chinese Infrastructure Projects and the Diffusion of Economic Activity in Developing Countries*" by Richard Bluhm, Axel Dreher, Andreas Fuchs, Bradley Parks, Austin Strange, Michael Tierney, the authors leverage a geolocated database of Chinese Government-

financed aid projects in 138 countries from 2000 – 2014 to explore the ways in which Chinese development projects influence the geographic distribution of economic activity within low-income and middle-income countries. The study highlights that China recently become a major financier of economic infrastructure in Africa, Asia, Latin America, the Middle East, and Central and Eastern Europe, however, it is unclear if these investments diffuse or concentrate economic activity.

The authors address this issue through analyzing their data and found that generally, Chinese development projects reduce economic inequality within and between subnational localities. The study also found that Chinese transportation projects in particular had a significant impact, suggesting that Chinese investments in "connective infrastructure" produce positive economic spillovers which lead to a more equal distribution of economic activity in the localities where they are implemented. Although this study does not particularly discuss how this impacts Chinese economic influence efforts, however, their findings on the positive economic results of Chinese government-financed development projects in countries with relatively weak economies, suggests that target countries benefiting from these projects may be more easily swayed by Chinese influence efforts.[5]

The 2019 study "*Rogue aid? An Empirical Analysis of China's Aid allocation*" by Dreher, Axel and Andreas Fuchs also leverages Chinese aid project data but has a more pointed focus on its relationship to Chinese economic influence.[6] In this work, the authors base their study off the characterization of foreign aid projects from China as "rogue aid" that is selfishly guided by furthering Chinese state interests. To address the veracity of this characterization, the study calculates the total monetary value of Chinese aid projects, including food aid, financial aid, and medical aid, provided to developing countries from 1956-2006 to empirically test the extent to which self-interests shape China's aid allocation. Through their analysis of this data, the authors found that political considerations shape China's allocation of aid, however, China does not pay substantially more attention to politics compared to Western donors. Additionally, they found that China's aid allocation appears to be widely independent of recipients' endowment with natural resources and institutional characteristics. Therefore, the study concludes that overall, the characterization of Chinese foreign aid projects as "rogue aid" seems unjustified.

The 2015 study *"Which Countries are most exposed to China?"* by Paolo Mauro and Jan Zilinsky is another notable quantitative study on Chinese economic influence that has significant relevance to my methodology regarding its intended purpose of assessing country vulnerability.[7] In this study, the authors leverage merchandise export data between 2007 – 2015, sourced from the International Monetary Fund (IMF), to identified which countries have the highest exposure to China through direct trade linkages. From their analysis of the data, the authors found that overall, trade exposure to China has increased in all G-20 economies since 2007, except for India and Argentina. Regarding the more pointed findings of the study, the authors highlight that China's regional neighbors had some of the largest ratios of exports to China in total exports, including Australia, South Korea, Japan. They also found Commodity exporters, such as Brazil and Saudi Arabia, featured prominently in their results. Beyond the G-20, the study found that several of the countries sharing a border with China accounted for notably large percentages of Chinese exports, such as Mongolia, North Korea, and Turkmenistan. The authors also identified several commodity exporters outside of the G-20 with similarly high percentages of Chinese exports, particularly the African economies of Angola, Republic of Congo, Gambia, and Mauritania.

In my review of existing qualitative academic studies on Chinese economic influence, I found these works to provide robust contextual information illuminating the nature of China's geopolitical interests and insightful conclusions on the unique incentives likely driving its economic behavior in the foreign countries it seeks to influence. The more quantitatively focused studies I reviewed make similarly valuable contributions but leverage various types of economic data to provide compelling arguments highlighting the relationships between certain types of economic activities and Chinese economic influence. Out of all the existing literature I evaluated, I found these quantitative works to have the highest degree of relevance to my research and collectively represent the data-focused portion of academic exploration into this topic in which I intend to add value. Without minimizing the importance of the arguments and notable findings presented in existing quantitative works, I found a majority of these works be limited by their niche focus on specific Chinese economic activities or Chinese economic engagement with countries located in particular world regions.

I argue that the added value of my research to existing works pertains to the global scale of my assessment and the several disparate data sources collectively applied to my methodology in order

to numerically calculate country vulnerability. In addition to openly available data sources that were individually evaluated by scholars in previous studies, my methodology also leverages data from proprietary sources that have not yet been applied to academic research on this topic. Furthermore, I conducted a globally focused assessment through my methodology that calculated country vulnerability to Chinese economic influence encompassing 192 countries across nine world regions. Without fully leveraging the vast amounts of available economic data and to generate combined insight, I argue that the evidence presented in these works do not provide a holistic view of Chinese global economic activities and represents the major missing component of existing academic literature that I intend to address through the research outlined in this paper.

Data Sources

In order calculate country vulnerability to Chinese economic influence, I first had to identify the appropriate data sources needed by my methodology to produce tangible results. Given the international scope and inherent complexity of my research question, these data sources would have to contain high volumes of transactional-level economic information capable of identifying the countries within China's expansive global economic engagement network. These data sources would also have to represent a diverse range of economic activities that when combined and applied to my methodology, would provide a holistic view of both the typology and nature of Chinese economic influence efforts throughout the world.

Following a period of extensive research and subsequent vetting of various potential candidates, I selected six data sources which were sufficiently comprehensive and compatible with the structure of my methodology. In aggregate, these disparate data sources encompass China's bi-directional economic relationship with over 200 countries, overseas territories, and dependent areas, however, I limited my assessment to the 192 countries within China's global economic engagement network that are recognized Member States of the United Nations (UN). The identified data sources include: International Trade Transactions, Foreign Investment, Mergers and acquisitions (M&A) Deals, Foreign subsidiaries, International Aid Projects, and Chinese Construction Contracts. (See full data source descriptions below)

International Trade Transactions (Import/Export) (2007-2017) [8]

- *Data Source* – World Bank
- *Source Type* – Open-Source
- *Data Coverage* – Bi-Directional
    - 2,966,042 Chinese Exports to Target Countries (Target Country Imports)
    - 728,965 Target Country Exports to China (Chinese Imports)

Foreign Investment (2007-2019)[ii] [9]

- *Data Source* – Thomson Reuters Eikon
- *Source Type* – Proprietary
- *Data Coverage* – Bi-Directional
    - 5,104 Chinese Investments in Target Countries
    - 60,211 Target Country Investments in China

Mergers and Acquisitions (M&A) Deals (2007-2019)[10]

- *Data Source* – Thomson Reuters Eikon
- *Source Type* – Proprietary
- *Data Coverage* – Bi-Directional
    - 2,555 Chinese M&A Deals in Target Countries
    - 3,105 Target Country M&A Deals in China

Foreign Subsidiaries (Current as of 2019)[11]

- *Data Source* – Uniworld Online
- *Source Type* – Proprietary
- *Data Coverage* – Bi-Directional (China & Target Countries)
    - 2,173 Chinese Subsidiaries in Target Countries
    - 21,641 Target Country Subsidiaries in China

International Aid Projects (2007-2014)[12]

- *Data Source* – AidData.org (William & Mary Global Research Institute)
- *Source Type* – Open-Source
- *Data Coverage* – Bi-Directional
    - 3,588 Chinese Aid Projects in Target Countries
    - 0 Target Country Aid Projects in China

[ii] Foreign Direct Invest includes all bi-directional private equity transactions (2007-2017), public company share ownership (current as of 2019), and greenfield investment (2005-2017)

Chinese Infrastructure Development (Construction) Contracts (2005-2017)[13]

- *Data Source* – American Enterprise Institute (AEI)
- *Source Type* – Open-Source
- *Data Coverage* – Unidirectional
    - 1,329 Foreign Chinese Construction Contracts

Data Source Selection

My rationale behind selecting these data sets was their global scalability, coverage of China-related economic interactions, transactional-level detail, and encompass economic activities with relevance to Chinese economic influence. Another major contributing factor in my decision to select these data sources was because the online platforms housing the raw information of these data sets had user interfaces which allowed for targeted querying and bulk extractions of China-related transactions.

Essentially, when building a complex methodology designed to generate a singular combined insight from disparate data sources that need to be merged together manually, such as a numeric vulnerability score for each country, the best approach is to incorporate as much relevant data that can be identified within the scope of the question or topic you are attempting to address. In the case of this research, the scope of both my research question and topic were of a global scale. As can be seen in the data source descriptions outlined above, the international trade data encompassed over 3.5 million records of import and export transactions while the other data sources contained thousands of relevant Chinese and target country transactions for each individual economic activity type. Therefore, the ability to query identified data sources for China-related transactions and extract the data in bulk was critical for the development of my methodology as well as its capability to produce accurate results.

Three of the data sets are open source (International Trade Transactions, International aid projects, Chinese Construction Contracts) and have been used in previous scholarly works on Chinese economic influence, however, as was stated in my literature review, these data sources were evaluated individually. Given that the methodology I developed is designed to generate vulnerability scores from all six data sources in aggregate, the application of these open-source data sets in my research is not duplicative of existing scholarly works. An additional added value of my methodology is the inclusion of three proprietary data sources (Foreign Investment, M&A

Deals, Foreign-Owned Subsidiaries) that to my knowledge, have not yet been leveraged in published academic research discussing Chinese economic influence.

Most of these data sources contained bi-directional data meaning that that the source contained information on Chinese economic activity into target countries as well as information on target country economic activity of the same type back into China. The "International Aid Projects" data source is technically bi-directional since it has global coverage and is not a China-specific database, however, it is an outlier amongst the other bi-directional data sources included in my methodology since the data naturally did not show any target country aid projects in China. The "Chinese Construction Contracts" was the only selected data source that was unidirectional, meaning that the data was restricted to information on outward-facing Chinese construction contracts in target countries and did not include the converse of target country construction contracts in China. The lack of bi-directional exchange in the "Chinese Construction Contract" data source is since it was originally created by the American Enterprise Institute (AEI) to be a China-specific database. While this does not necessarily mean that none of the evaluated target countries have construction contracts in China, such information was beyond the scope of the available data.

Data Inconsistencies & Information Gaps

As is a common reality in any attempt to generate collective insight from merged disparate data, there are certain information gaps and inconsistencies across the selected data sources that warrant mention. First, it is important to note that the representation of countries in the transactional-level economic information contained within these data sources are largely dependent upon the transparency and reporting activities of the ruling governments in those countries. Countries that rarely disclose details on their global economic activities or related financial transactions with international markets, such as Iran and North Korea, have minimal presence in the available economic information and their representation in the data likely does not provide an accurate depiction of their existing economic relationship with China. It is also important to note that there are discrepancies amongst the data source regarding the temporal coverage of their associated economic activities. For instance, I was able to extract foreign investment transactions up to 2019, while the data source for international aid projects only provides activity up to 2014. Although it would have been preferable to have a consistent coverage period for each data source, they include information on economic activities reported relatively within the same timeframe and the

highlighted discrepancies in their temporal coverage are not to the degree in which it would have a detrimental impact on the methodology.

Methodology

Guided by extensive research into the concept of economic statecraft and my underlying hypothesis of the unique relationship between the ultimate state control of China's economic system and Chinese economic influence, I designed my methodology to calculate country vulnerability through the interactions of active and passive economic traits of potential target countries:

- *Active Trait* – The degree of financial leverage China possesses in its existing bi-directional economic relationships with target countries.
- *Passive Trait* – The relative economic strength (GDP & GDP per Capita) of the target countries engaging with China.

In my four-step methodology, I generated numeric values representing the defined active and passive traits of vulnerability for each target country, calculated the overall vulnerability of target countries to Chinese economic influence and provided them with a corresponding country vulnerability rank, and lastly, identified correlative relationships and measured potential impacts of country vulnerability to target state behavior.

The logic behind my data-driven methodology and my expectations of its capability to produce accurate numeric representations of relative country risk exposure to Chinese economic influence, was conceptually based upon China's ultimate state control of its domestic and international economic activities. China has transformed dramatically since its economic reforms; however, its authoritarian government and the inherently statist nature of the Communist Party of China (CPC) have remained fundamentally unchanged since 1949. These are foundational aspects of China's governmental system that have been consistent throughout its evolution into a major economic world power and therefore, it cannot be viewed as a country that perceives nor engages the modern global economy in the same way as other major world powers.

Unlike China, the conduct of US and other large Western economies in the international free-market system is fundamentally guided by their adherence to the core capitalist principles associated with private enterprise and limited state control. These central tenets of capitalism emphasize the critical importance of independent, self-sustaining businesses to drive global markets and freely pursue their own corporate and financial interests with minimal government interference. Within this system, the state has the authority to directly intervene in the market when necessary, however, under normal circumstances national governments are meant to primarily serve as external market forces that provide a legal structure and regulatory framework in which private enterprise operates. In direct contradiction to this concept, the state's relationship to China-based companies is one of complete control in which the Chinese government intimately dictates their business operations, corporate relationships, and financial transactions; especially those involving foreign companies in international markets. This extreme degree of state authority over China's domestic and international economic activities is firmly cemented within the political power structure of its authoritarian-style communist government, representing a key difference separating China from the US and other major economic powers operating within the capitalist free-market system.

In light of this difference, I hypothesized that any notable patterns or trends observed through my analysis of the selected economic data sources would likely reflect Chinese state interests and provide a relatively accurate depiction of the targeted economic engagement methods China employs to further its political influence within certain countries and world regions. Through this underlying logic, it is rational to assume that when applying these same economic data sources to my methodology designed to calculate country vulnerability, the resulting scores would provide accurate numeric representations of individual country risk exposure to Chinese economic influence.

Methodology Step #1 – Calculating the Active Trait of Chinese Financial Leverage

To calculate China's economic leverage within the existing bi-directional economic relationship it shares with each target countries (*Active Trait*), I subtracted the total the dollar and volume values of China's externally facing economic activities within each target country (*Chinese Outward Economic Engagement)* by the corresponding total dollar and volume values of internally-facing economic activities of each target country back into China (*Target Inward Economic Engagement)*.

I incorporated the total volumes of each type of economic activity along with their associated total dollar values in my assessment due to an information gap identified in the data, which was a significant number of unreported dollar values for recorded investment and M&A transactions between China and the 192 target countries evaluated. I found that when only applying the total equity amounts for these economic engagement types, the several transactions without any reported equity amounts would be discounted and therefore, not accurately reflect the existing bi-directional economic relationships between the China and the 192 potential target countries.

My calculations for *Chinese Outward Economic Engagement* and *Target Inward Economic Engagement* used the dollar and volume totals for all economic activities except international trade, which was calculated separately and only for total dollar values. I decided to calculate international trade separately due to the significantly higher dollar values for annual country to country exchanges represented in the international trade data than all of the other economic activity types. Additionally, the international trade data did not have the information gap of unreported dollar values for recorded transactions like the other economic activity types and similarly calculating trade volume totals along with dollar amount totals was unnecessary. With this structure in place, my methodology provided each country with six separate values, including dollar, volume, and trade totals for *Chinese Outward Economic Engagement* and *Target Inward Economic Engagement:*

Chinese Outward Economic Engagement (China → Target Country):

1. **Outward Economic Activity Dollar Value** = *China Foreign Investment $ Total (+) China M&A deals $ Total (+) Annual Revenue $ Total of Chinese Parent Companies with Subsidiary Presence in Target (+) China Aid Project $ Total (+) China Construction Contract $ Tota*

2. **Outward Economic Acitvity Volume** = *China Foreign Investment Volume Total (+) China M&A Deals Volume Total (+) China Subsidiary Volume Total (+) Chinese Aid Project Volume Total (+) Chinese Construction Contract Volume Total*

3. **Outward International Trade Value** = *$ Totals of Chinese Exports to Target Country*

Target Outward Economic Engagement (Target Country → China):

1. **Inward Economic Activity Dollar Value** = *Target Foreign Investment $ Total (+) Target M&A deals $ Total (+) Annual Revenue $ Total of Target Country Parent Companies with Subsidiary Presence in China (+) Target Country Aid Project $ Total (+) Target Construction Contract $ Total*

2. **Inward Economic Activity Volume** = *Target Foreign Investment Volume Total (+) Target M&A Deals volume Total (+) Target Subsidiary Volume Total (+) Target Aid Project Volume Total (+) Target Construction Contract Volume Total*

3. **Inward International Trade Value** = *$ Total of Target Country Exports to China*

After finding the Outward and Inward Economic Engagement totals, I generated three new values for each of the 192 target countries: dollar, volume, and trade net difference. I calculated the net differences by subtracting *Outward Economic Engagement* values by *Inward Economic Engagement* values for each of the three corresponding types (Dollar Value, Volume, and International Trade Value).

1. **Dollar Net Difference** = *China Outward Engagement $ Totals* **(-)** *Target Inward Engagement $ Totals*

2. **Volume Net Difference** = *Outward Engagement Volume Totals* **(-)** *Inward Engagement Volume Totals*

3. **International Trade Net Difference** = *$ Total of China Exports to Target Country (-) $ Total of Target Country Exports to China*

According to my methodology, the resulting net difference values reflect the degree of Chinese financial leverage held within its bi-directional economic relationship with the 192 target countries evaluated. Due to the uniform formulaic structure of each net difference calculation as *China Outward Engagement* **(-)** *Target Inward Engagement*, positive values indicate China has more overall economic activity within the target country than the target country has within China and conversely, negative net difference values indicate that the target country has more overall economic activity within China than China has within the target country. Therefore, the higher net difference value, the greater the degree of China's financial leverage in the target country and the lower the net difference value, the lesser the degree of China's financial leverage in the target country.

In order to generate a numeric representation of total Chinese financial leverage for each target country, I listed the target countries in descending order by the three net differences and provided countries with a rank of 192 to 1 for each value. For example, the country with the highest value for dollar net difference would receive a rank of 192 while the country with the lowest value for dollar net difference receive a rank of 1. By adding the numeric rankings of dollar, volume, and international trade net difference, I generated a total *Chinese Financial Leverage Score* for each target country. According to my methodology, this score is a numeric representation of Chinese financial leverage within the 192 target countries observed to have a bi-directional economic relationship with China. For clarification, see the examples of the countries with the highest and lowest Chinese Financial Leverage Scores below. (Tables 1 & 2)

TABLE 1: HIGHEST CHINESE FINANCIAL LEVERAGE SCORE – VIETNAM

Dollar ND Value (M USD)	***Dollar ND Rank***	***Volume ND Value***	***Volume ND Rank***	***Trade ND Value (M USD)***	***Trade ND Rank***	***Financial Leverage Score***
$1,700,281	186	127	188	$228,123,129	186	560

TABLE 2: LOWEST CHINESE FINANCIAL LEVERAGE SCORE – SWITZERLAND

Dollar ND Value (M USD)	***Dollar ND Rank***	***Volume ND Value***	***Volume ND Rank***	***Trade ND Value (M USD)***	***Trade ND Rank***	***Financial Leverage Score***
-$10,818,759	4	-3946	3	-$189,907,486	5	12

Methodology Step #2 – Calculating the Passive Trait of Country Economic Strength

Generating a numeric representation of China's financial leverage in target countries is a critical component of quantifying overall country vulnerability to Chinese economic influence, however, I argue that target countries are not equally impacted by the Chinese financial leverage scores calculated in Step #1 and must be further contextualized by generating an additional score that represents the relative economic strength (*Passive Trait*) of target countries. My reasoning behind this is founded in the assumption that the true power of Chinese financial leverage is fundamentally determined by the size and strength of the target country's economy. Simply put, I assert that Chinese economic influence efforts in target countries with similar Chinese Financial Leverage Scores are more likely to be successful in those with relatively weaker economies. Despite having comparable degrees of Chinese financial leverage, stronger economies will naturally have higher resilience to Chinese influence than weaker economies due to their greater negotiating power when economically engaging with China and enhanced ability to institute effective countermeasures in response to Chinese economic coercion.

For example, Vietnam and Indonesia have similar Chinese Financial Leverage Scores, yet have differed dramatically in their economic engagement with China. By solely interpreting the comparable Chinese Financial Leverage Scores for these Southeast Asian countries, one would expect both Vietnam and Indonesia to exhibit a similar degree of acquiescence to Chinese efforts of economic expansion within their borders, however, Indonesia has demonstrated far greater resistance to Chinese economic encroachment than Vietnam in recent years.[14] I argue that the reason for Indonesia's heightened resistance to Chinese economic influence and real-world state behavior contradicting that of Vietnam, another Southeast Asian country with a similarly high Chinese Financial Leverage Score, is Indonesia's significantly larger and more diverse economy. Therefore, an accurate quantification of overall country vulnerability to Chinese economic influence requires the inclusion of an additional score that contextualizes the impact of Chinese Financial Leverage values through a numeric representation of target country economic strength.

To calculate the overall economic strength of target countries (*Target Economic Strength Score)*, I used the most recent estimations of country GDP and GDP per Capita provided by the World Bank. The formula for this calculation is as follows:

Target Economic Strength = *GDP Rank (+) GDP per Capita Rank*

The process of generating this score was similar to the combining of ranked values demonstrated in Step #1, however, for this calculation I provided target countries with a GDP and GDP per Capita rank from 192 to 1 after listing them in ascending rather than descending order. I did this to maintain consistency in my methodology with my underlying assumption of weaker economies having greater vulnerability to Chinese economic influence than stronger economies. For example, countries with the lowest GDP and GDP per received a rank of 192 while the countries with the highest GDP and GDP per capita received a rank of 1. For clarification, see the examples of the countries with the highest and lowest Chinese Financial Leverage Scores below. (Tables 3 & 4)

TABLE 3: LOWEST TARGET ECONOMIC STRENGTH SCORE – GUINEA-BISSAU

GDP (M USD)	***GDP Rank***	***GDP per Capita (USD)***	***GDP per Capita Rank***	***Economic Strength Score***
$1,164.94	174	$620.00	191	365

TABLE 4: HIGHEST TARGET ECONOMIC STRENGTH SCORE – UNITED STATES

GDP (M USD)	***GDP Rank***	***GDP per Capita (USD)***	***GDP per Capita Rank***	***Economic Strength Score***
$18,624,475.00	1	$57,400.00	11	12

Methodology Step #3 – Calculating Country Vulnerability

In order to generate overall scores for target countries representing their relative vulnerability to Chinese economic influence (*Target Vulnerability Score)* and their corresponding rank within the population of 192 countries evaluated (*Target Vulnerability Rank),* I combined the values of *Chinese Financial Leverage Score* with *Target Economic Strength Score* for each target countries:

Target Vulnerability Score = *Chinese Financial Leverage Score* (+) *Target Economic Strength Score*

I then ranked the resulting values of each target country in descending order from highest to lowest Target Vulnerability Score and provided them with a rank from 1 to 192. For example, the country with the highest Target Vulnerability Score received a rank of 1 while the country with the lowest Target Vulnerability Score received a rank of 192. To clarify further, see the examples of the countries with the highest and lowest Target Vulnerability Scores below. (Tables 5 & 6)

TABLE 5: HIGHEST TARGET VULNERABILITY SCORE – CAMBODIA

Financial Leverage Score	***Economic Strength Score***	***Vulnerability Score***	***Vulnerability Rank***
507	249	756	1

TABLE 6: LOWEST TARGET VULNERABILITY SCORE – SWITZERLAND

Financial Leverage Score	***Economic Strength Score***	***Vulnerability Score***	***Vulnerability Rank***
12	27	39	192

According to my methodology, countries with high Target Vulnerability Scores are more susceptible to Chinese economic influence due to their relatively weak economies and greater Chinese leverage in their existing bi-directional economic relationship with China. China's efforts to coerce, pressure, or subjugate these target countries of heightened vulnerability through economic means are generally more effective and more likely to successfully alter target state behavior in ways that further Chinese strategic interests. Conversely, countries with low Target Vulnerability Scores are more resilient and less susceptible to Chinese economic influence efforts. These low vulnerability countries generally have larger, stronger economies and either dominate their economic relationship with China or maintain a relatively balanced economic exchange with China. Strong economies in which China possesses minimal leverage, are not only more capable of adequately defending themselves against China's attempts at economic coercion, but are less likely to be targeted by Chinese economic influence efforts in the first place due to the potential of operational blowback for China, which could result in negative consequences that have detrimental impacts on Chinese economic and geopolitical interests.

Methodology Step #4 –Measuring Potential Impact State Behavior

The final step in my methodology is to assess the impacts of country vulnerability on state behavior. The reasoning behind this next research objective was to first test the accuracy of my country vulnerability results and verify my hypothesis that countries with higher scores are more likely to demonstrate state behaviors indicative of subservience or acquiescence to Chinese economic interests. Guided by the country vulnerability scores calculated in Step #3, it was not difficult to identify various qualitative examples through open source research that supported this assumption, like the previously provided Indonesia-Vietnam example. However, to test for the impacts of generated country vulnerability scores and transactional economic activity data, my methodology required a quantitative representation of state behavior on a global scale. This was provided by a comprehensive dataset of UN General Assembly voting records constructed by researchers at Harvard University. Given my evaluation period of bi-directional economic engagement with China from 2007-2019, I limited my assessment of the available UN voting records from 2007-2017. I used this targeted sample of UN voting data set, encompassing 809 UN General Assembly resolutions and a total of 103,005 country votes, to calculate the percentages of country vote solidarity and opposition with China.

To calculate country solidarity and cohesion with China, I compared the votes cast by China and the 192 target countries for each resolution and designated each country vote with a banding of Cohesive" (Agreed) or "Oppositional" (Disagreed) depending on whether or not it corresponded with China's casted "YES" or "NO" vote on the 809 UN General Assembly resolutions evaluated. I then tallied the total amounts of country cohesive and oppositional vote designations and calculated their corresponding percentages for the total number of country votes, attributing each country with a percentage reflecting its overall cohesion or vote solidarity with China as well as the percentage of its votes opposing those cast by China. Lastly, I applied logistical regression to identify any observable correlative relationships between target country vulnerability scores, average vulnerability scores per world region, and economic activity volumes with calculated UN vote solidarity percentages.

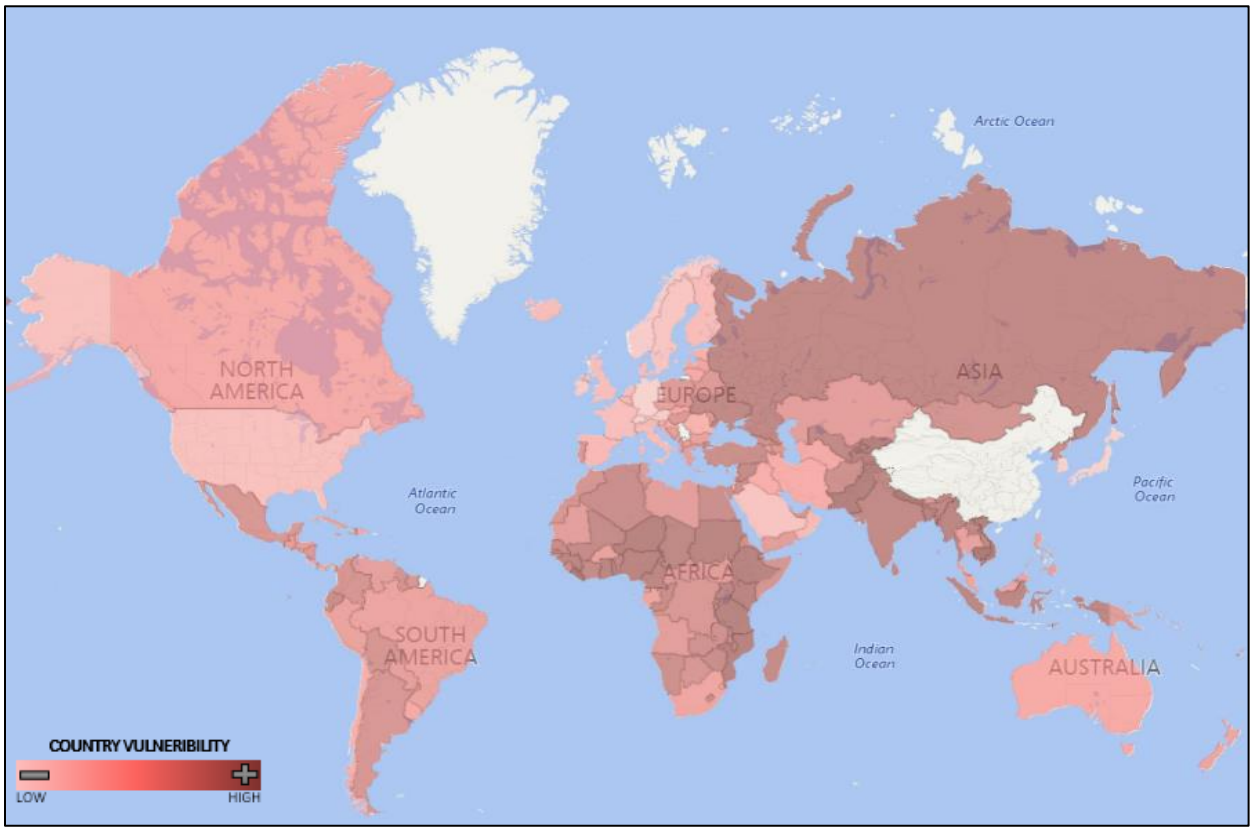
Results & Key Findings

In this section, I will review my findings on country vulnerability and observed relationships between country vulnerability scores, specific economic activity types, and UN vote solidarity. I also will review the results of a statistical experiment I conducted on the data in which I applied logistical regression analysis to identify any correlations existing between UN vote solidarity percentages and different types of Chinese economic activity, as well as country regional location.

Ranking Country Vulnerability

My country vulnerability scores, generated from various open-source and proprietary data sets, quantitatively reflect the relative risk exposure of 192 countries to Chinese economic influence. (Figure 1) (See complete results in Appendix A) As was stated in my methodology section, the scores encompass several different types of economic engagement, that together, holistically define China's unique bi-directional economic relationship with each potential target country over the evaluation period from 2007-2019. I assert the combined application of disparate economic data sources and current global GDP and GDP per capita estimates allowed for accurate, contextualized quantifications of country vulnerability to Chinese economic influence validated by qualitative findings on real-world country interactions with China identified through academic and open-source research. It is important to note that several countries received the exact same vulnerability scores and therefore, received the same global ranking.

FIGURE 1: GLOBAL COUNTRY MAP BY VULNERABILITY SCORE



According to my methodology, the top ten most vulnerable countries to Chinese economic influence are Timor-Leste, Cambodia, Liberia, Vietnam, Pakistan, Nepal, Niger, Kyrgyzstan, Tanzania, and Mozambique. (Table 7) Tanzania and Mozambique had the exact same vulnerability score and received the same ranking, however, I chose not to represent this in the table of the top 10 to avoid confusion. I assert that these countries are exposed to the highest degree of risk of and are the most likely to be successfully coerced and manipulated Chinese economic influence efforts. When analyzing Chinese economic activity in each specific country, there are observable similarities in the composition of economic engagement types and their associated volumes. For example, Chinese economic activity in the top ten most vulnerable countries is largely dominated by high volumes of Chinese aid projects and construction contracts with minimal amounts of foreign direct investment, M&A, and subsidiary locations. Conversely, Chinese economic activity in the top ten least vulnerable countries deemed to be the most resilient is largely composed of high volumes of foreign direct investments, M&A, and subsidiary locations with comparatively insignificant amounts of aid projects and construction contracts.

TABLE 7: GLOBAL TOP TEN VULNERABLE COUNTRIES

RANK	TARGET COUNTRY
1	Cambodia
2	Liberia
3	Vietnam
4	Pakistan
5	Nepal
6	Niger
7	Kyrgyzstan
8	Tanzania
8	Mozambique
9	Ethiopia

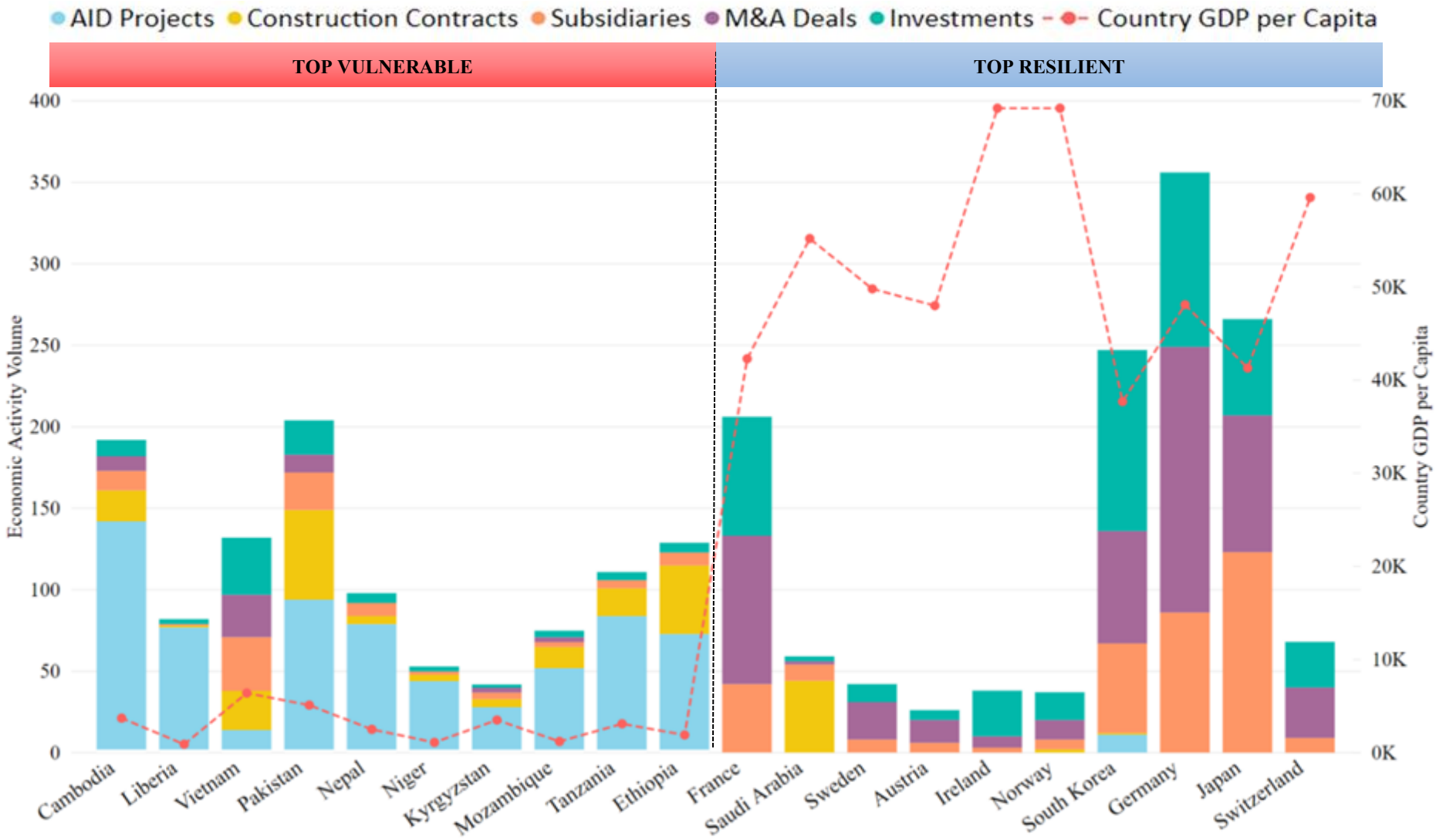
The most resilient countries with the lowest vulnerability scores are countries are Switzerland, Japan, Germany, South Korea, Norway, Ireland, Austria, Sweden, Saudi Arabia, and France. (Table 8) Additionally, I found a significant disparity between the economic strength of the top vulnerable and resilient countries. In terms of country GDP and GDP per capita, the more vulnerable countries with higher volumes of aid projects and construction contracts consistently had weaker, less diverse economies than those of more resilient countries. (Figure 2) Vulnerable countries also had significantly higher trade deficits with China. Chinese economic activity in more resilient countries consists of investments, M&A, and subsidiary locations with comparably insignificant amounts of aid projects and construction contracts

TABLE 8: GLOBAL TOP TEN LEAST VULNERABLE COUNTRIES

RANK	TARGET COUNTRY
1	Switzerland
2	Japan
3	Germany
4	South Korea
5	Norway
6	Ireland
7	Austria
8	Sweden
9	Saudi Arabia
10	France

I also identified a significant disparity between the economic strength of the top vulnerable and resilient countries. In terms of country GDP and GDP per capita, the more vulnerable countries with higher volumes of aid projects and construction contracts consistently had weaker, less diverse economies than the more resilient countries. (Figure 2) More vulnerable countries also had significantly higher trade deficits with China. I argue that these consistent compositional patterns of Chinese economic activity observed in my results reflect China's exploitative global economic engagement strategy and targeted use of "debt-trap diplomacy, China's economic statecraft method of choice when attempting to gain financial leverage over relatively poor economies, particularly those in Africa. [15] According to my results, the target countries of high vulnerability are exposed to greater risk due to a significant lack of financial leverage in the bi-directional economic relationship with the influencer which is then further exacerbated by the relative weakness of their economy. Therefore, it is the interaction of these two primary factors that fundamentally determine the overall vulnerability of the target country, encompassing the degree of China's capability to exert influence and successfully alter the behavior of target countries via its existing economic leverage which is then contextualized and ultimately defined by the underlying economic strength of the intended target.

TOP 10 VULNERABLE & RESILIENT COUNTRY COMPARISON BY ECONOMIC ACTIVITY VOLUME (2007-2019)& GDP PER CAPITA



Interestingly, Japan and South Korea, two Asian countries in close geographic proximity to Chinese borders, were amongst the top ten most resilient countries. While this did not necessarily align with my initial hypothesis and represented two significant outliers, the high resiliency of Japan and South Korea make complete logical sense when framed within their appropriate geopolitical context. In addition to Japan and South Korea being the two main regional economic powers competing with China, they are both historically aligned with the United States and its Western allies. I assert that my results reflect geopolitical reality of Japan and South Korea's strong ties with the West, giving credence to the overall accuracy of my methodology and suggests that the rest of my country vulnerability scores are similarly authentic.

Aside from the identified anomalies, the results of the top ten most vulnerable and least vulnerable countries reflected my initial hypothesis that Asian countries in closer geographic proximity to China would be the most vulnerable to Chinese economic influence while countries with strong economies in North America and Western Europe would have the lowest vulnerability; however, there were some results I did not anticipate when calculating the total and average vulnerability scores by world region. The regional averages of country vulnerability score in descending order are as follows: Africa, Asia, Oceania, South America, Central America & Caribbean, Eastern Europe, the Middle East, North America, and Western Europe. (Table 9)

TABLE 9: AVERAGE & TOTAL COUNTRY VULNERABILITY SCORES BY WORLD REGION

TARGET WORLD REGION	NUMBER OF COUNTRIES	AVERAGE VULNERABILITY SCORE	TOTAL VULNERABILITY SCORE
AFRICA	54	588.37	31,772
ASIA	30	539.63	16,189
OCEANIA	15	495.47	7,432
SOUTH AMERICA	11	483.82	5,322
CENTRAL AMERICA & CARIBBEAN	22	463.27	10,192
EASTERN EUROPE	21	451.95	9,491
MIDDLE EAST	14	417.43	5,844
NORTH AMERICA	2	303.00	606
WESTERN EUROPE	23	239.83	5,516

The most surprising finding from these calculations was the regional totals and average found for Africa. Despite Asia dominating the top ten most vulnerable countries, a finding consistent with my initial hypothesis, Africa surpassed Asia in both regional total and average vulnerability score. These results somewhat contradicted my assumption of country vulnerability in Asia and instead, suggest that African countries are more exposed to Chinese economic influence than Asian countries within China's immediate geographic periphery. Africa had the highest total and average country vulnerability score out of all world regions evaluated, followed by Asia with the second highest regional total, and are consistent with the regional composition of the top ten most vulnerable countries identified which were all located in either Africa or Asia.

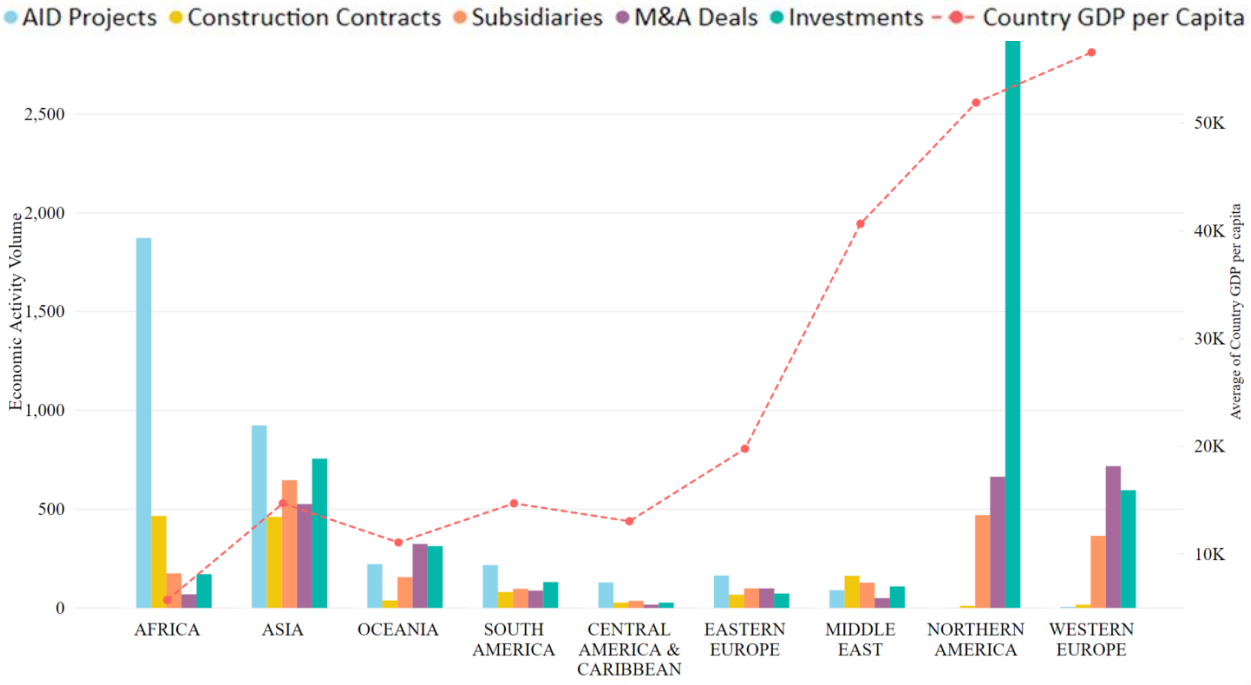
I found similar contradictory results when analyzing the total and average country vulnerability scores for the world regions of Oceania, Central America & Caribbean, and South America. Although Oceania has the third highest score in terms of average country vulnerability and consistent with my initial hypothesis that countries in closer geographic proximity to China are likely to have heightened vulnerability to Chinese economic influence, I noticed this result to be skewed by the way in which I decided to label world region for countries and changed significantly when applying alternative labeling conventions for country world region. For instance, I initially calculated the regional total and averages for South America and Central America & Caribbean, which can be considered as subregions of Latin America and universally labeled as such due to the ethic, cultural, and linguistic similarities of countries encompassing both regions. When applying this common label to the 11 countries in South America and 22 countries in Central America & Caribbean, the Oceania still had the third highest regional average, however, the total vulnerability scores for the 33 Latin American countries was significantly higher than that of the 15 countries in Oceania, indicating Latin American countries are more exposed to Chinese economic influence than those geographically closer to China in Oceania.

When visualizing the volume of different Chinese economic activity types and average GDP per Capita of world regions, ordered by highest to lowest average country vulnerability score, I observed notable patterns and trends in Chinese economic engagement across world regions that appear to reflect the strategic priorities of the Chinese government and demonstrate the targeted

means of engagement China employs in the pursuit of expanding its global influence through economic activities abroad.

For instance, my results show that Chinese construction contracts and aid projects were highest in Africa, indicating a consistent Chinese focus on these types of economic activities in the region. According to my data, the volume China's aid projects in Africa account for approximately 51% of all Chinese aid projects globally. China's construction contracts in Africa are similarly dominant in volume, accounting around 34% of all international Chinese construction contracts. The total volumes of other economic activities in Africa such as investment, M&A, and subsidiary presence, were all relatively insignificant and fell below global averages. (Figure 3)

FIGURE 3: WORLD REGIONS BY ECONOMIC ACTIVITY VOLUME (2007 – 2019) & AVERAGE GDP PER CAPITA (DESCENDING BY AVERAGE COUNTRY VULNERABILITY SCORE)



To elaborate further, Africa represented 13% of Chinese global investment, 7% of Chinese subsidiary locations, and only 2% of international M&A deals. In terms of economic strength, Africa demonstrated the lowest value in average country GDP per Capita, indicating that along with experiencing the highest volumes of Chinese construction contracts and aid projects, it is also the weakest economic world region China interacts with. There also appears to be a consistent relationship between these specific economic activities with both country vulnerability and economic strength beyond Africa in which the regional totals of Chinese aid projects and construction contracts steadily increase in volume as average regional vulnerability scores increases and average regional GDP per Capita decreases.

Together, these results indicate China has made a concerted effort to expand its economic influence in world regions outside of its immediate geographic periphery and are particularly focused on increasing their financial leverage in relatively weak economies located in Africa, Asia, and the two subregions of Latin America. Additionally, the dominant economic activities of construction contracts and aid projects in these regions appears to be consistent with the concept of as "debt-trap diplomacy", an exploitative form of economic statecraft that China is frequently accused using when economically engaging with poor countries in developing world regions.

According to several studies on debt-trap diplomacy within the context of Chinese economic influence, experts largely agree that China most commonly targets poor countries in Africa with this method, however, they are also accused of doing so in Asia and Latin America. Aligned with my results, these studies state that Chinese debt-trap diplomacy mainly consists of large international aid projects and expensive infrastructure development initiatives (AKA construction contracts) which are used in tandem to place economically weak target countries in insurmountable levels of debt held by China-based financial institutions and banks, which are normally state-owned entities ultimately controlled by the Chinese government. Given the Chinese creditor's state ownership, the considerable debt solidifies China's dominance in its bi-directional economic relationship with the target country, providing the Chinese government with the financial leverage necessary to alter target state behavior and effectively exert influence over the country which is designed to further China's strategic interests. [16]

Comparing UN Vote Solidarity, Country Vulnerability Scores, & Economic Activity

Following the application of each country's calculated UN vote solidarity with China between 2007-2017, my results provide additional evidence supporting the overall accuracy of my methodology that not only further support the veracity of country vulnerability scores but provide statistical findings highlighting the potential impacts of Chinese economic influence on state behavior, encompassing correlative relationships identified between UN vote solidarity with China and country vulnerability scores, volume of outward economic activity type, regional location, and relative economic strength. To accurately interpret the significance of country vote solidarity percentages, it is important to note that the global average for UN vote solidarity with China is 88%. First, the findings largely support my initial hypothesis that countries more exposed to Chinese economic influence would be more likely to vote in solidarity with China at the UN and consistent with my underlying assumption that the act of openly casting an oppositional vote against China on the international stage could provoke a negative economic response from China and result in severe financial consequences for countries with higher vulnerability scores. As I had anticipated, my results showed a positive correlation between country voting behavior at the UN and their corresponding vulnerability score.

According to my comparative analysis of country vote solidarity percentages and vulnerability score, countries with higher vote solidarity percentages tended to also have higher vulnerability scores. This trend is consistent across the entirety of my results and can be observed in my comparative analysis of averages for the top 50 and top ten most vulnerable and resilient countries. For instance, the average vote solidarity percentage for the top 50 most vulnerable countries is 96.09% while the average vote solidarity is 97.53% for the top ten most vulnerable countries (Table 10), both above the global average. Similarly, the top 50 least vulnerable (most resilient) countries have an average vote solidarity of 76.58% while the average for the top ten least vulnerable countries (Table 11) is 75.78%.

TABLE 10: TOP TEN VULNERABLE COUNTRIES BY UN VOTE SOLIDARITY %

UN VOTE SOLIDARITY %	TARGET COUNTRY
97.75%	Cambodia
92.74%	Liberia
98.80%	Vietnam
98.60%	Pakistan
97.71%	Nepal
98.63%	Niger
97.63%	Kyrgyzstan
97.48%	Tanzania
97.55%	Mozambique
98.37%	Ethiopia

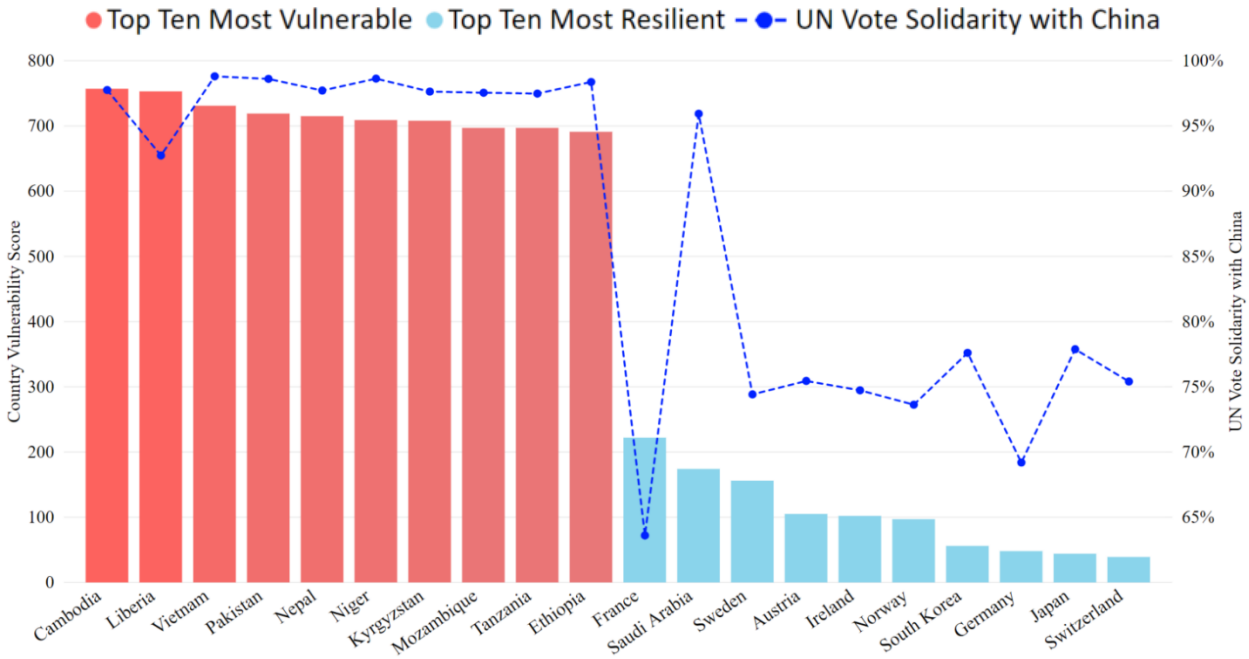
TABLE 11: TOP TEN LEAST VULNERABLE COUNTRIES BY UN VOTE SOLIDARITY %

UN VOTE SOLIDARITY %	TARGET COUNTRY
75.40%	Switzerland
77.88%	Japan
69.19%	Germany
77.60%	South Korea
73.63%	Norway
74.73%	Ireland
75.44%	Austria
74.42%	Sweden
95.93%	Saudi Arabia
63.60%	France

Additionally, these overarching trends in country vulnerability and UN vote solidarity can be observed further when generating comprehensive visualizations encompassing all 192 countries evaluated in my assessment and are also similarly reflected in focused visualizations on the top ten most vulnerable and resilient countries. (Figures 4 & 5)

FIGURE 4: COUNTRY BY VULNERABILITY SCORE & UN VOTE SOLIDARITY WITH CHINA (2007 – 2017)

FIGURE 5: COMPARISON OF TOP & BOTTOM TEN VULNERABLE COUNTRIES BY UN VOTE SOLIDARITY WITH CHINA (2007 – 2017)



I also identified several anomalies in country vote solidarity percentages when compared to corresponding country vulnerability scores and average vulnerability scores per world region. (Figures 6 & 7)

FIGURE 6: COUNTRY VULNERABILITY SCORE & UN VOTE SOLIDARITY WITH CHINA (2007 – 2017) COLORED BY WORLD REGION & SIZED BY COUNTRY GDP PER CAPITA

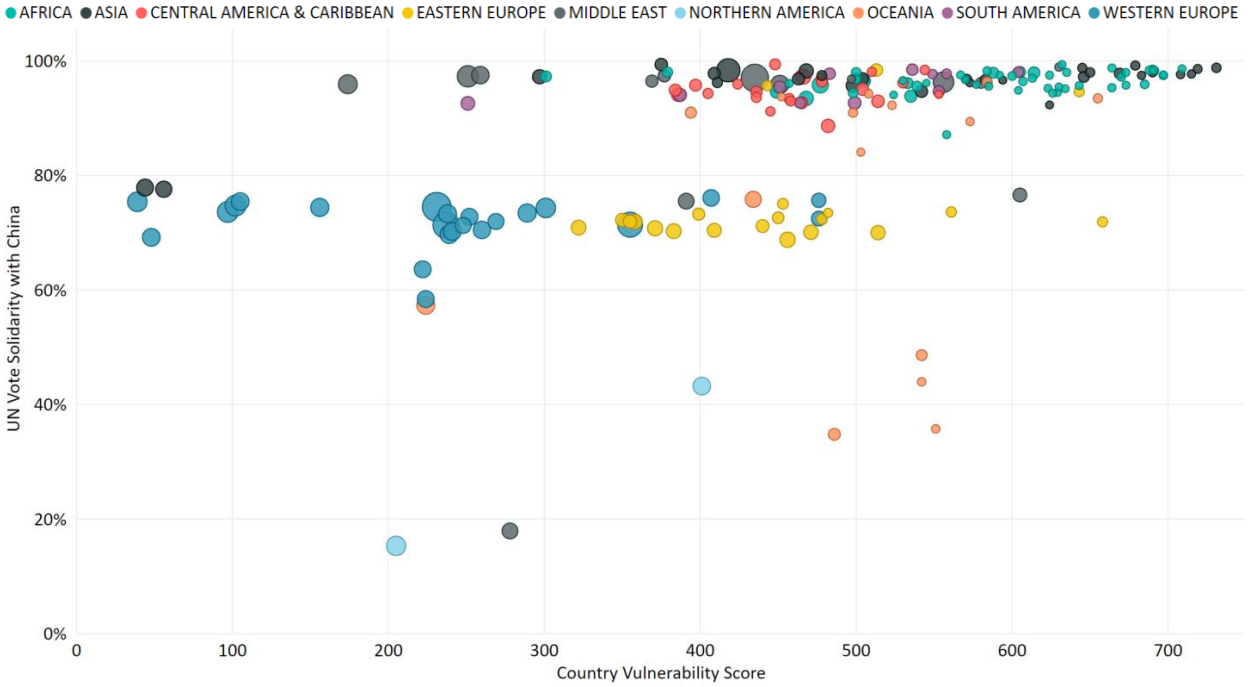
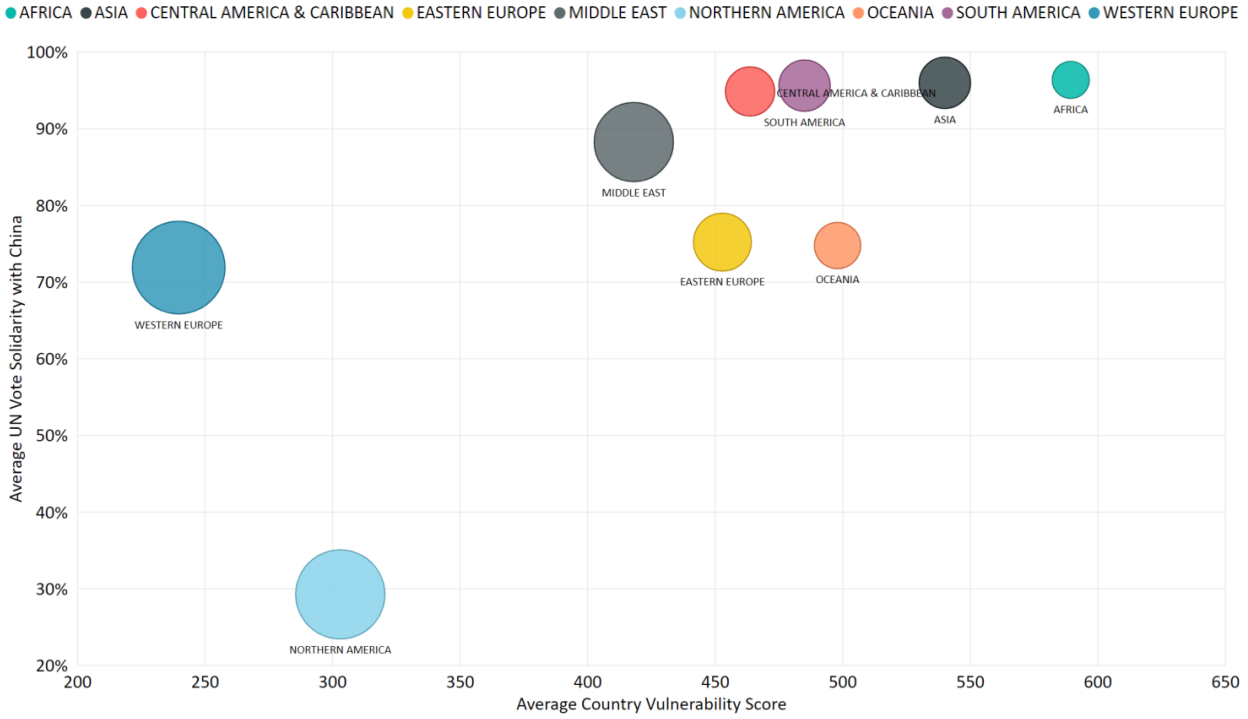


FIGURE 7: AVERAGE COUNTRY VULNERABILITY SCORE & UN VOTE SOLIDARITY WITH CHINA (2007 – 2017) BY WORLD REGION & SIZED BY AVERAGE COUNTRY GDP PER CAPITA



For instance, countries outside of the top ten most vulnerable had vote solidarity percentages above 99%, such as Cuba (99.40%), Iran (99.37%), Zimbabwe (99.36%), and Myanmar (99.20%). Despite not being amongst the top vulnerable, these countries still had relatively high vulnerability scores when compared globally. Cuba and Iran were the only countries in this grouping that did not have vulnerability scores consistent with their significantly high vote solidarity percentages. In reviewing the economic data used to generate my vulnerability scores, I attribute this discrepancy to an apparent lack of information on these two countries when compared to that which was available for a majority of countries evaluated in my assessment. With more comprehensive economic data that addresses this recognized information gap, I anticipate that newly generated vulnerability scores for Cuba and Iran would be more consistent with their high vote solidarity percentages.

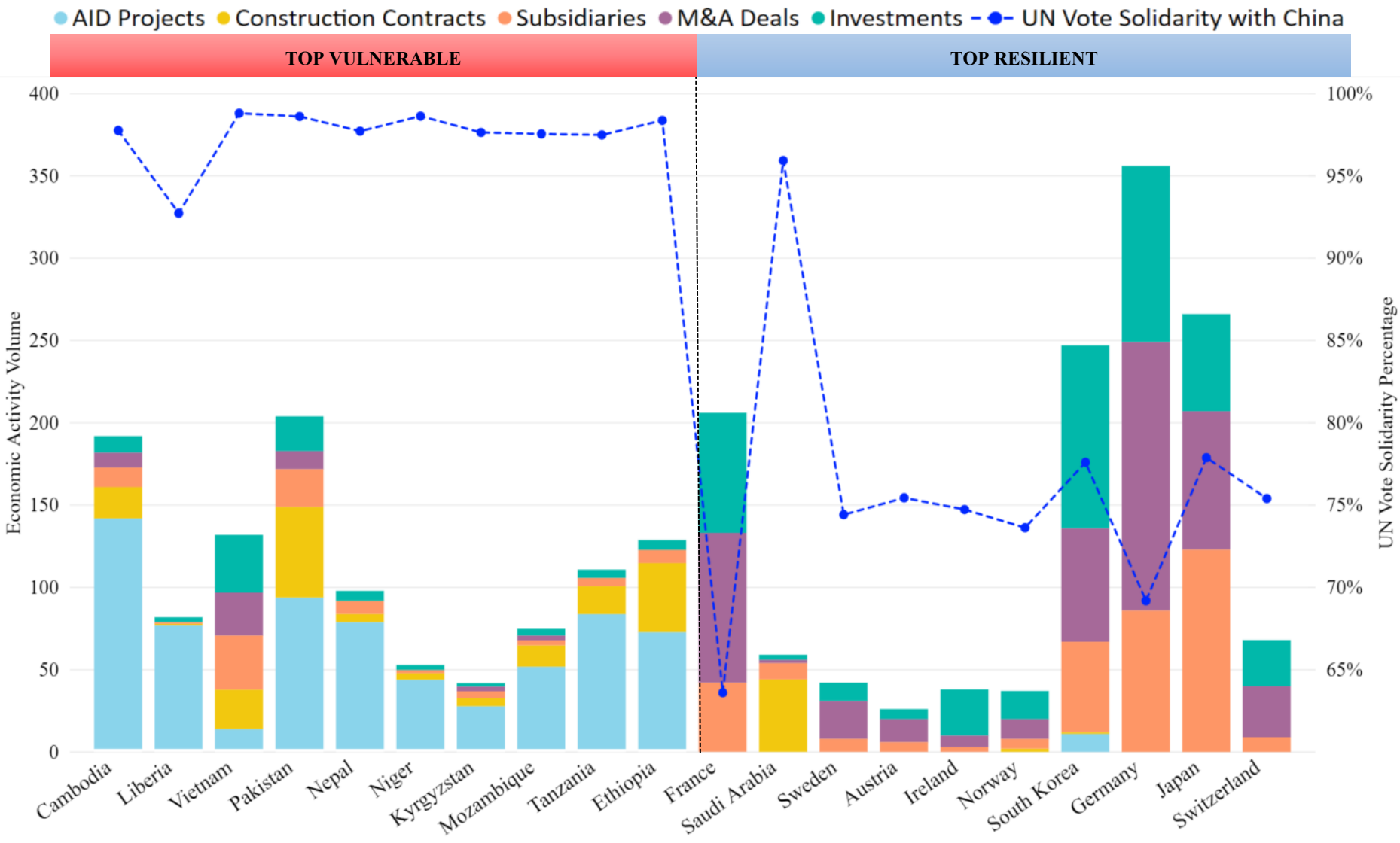
Also, Saudi Arabia interestingly had a high vote solidarity percentage, one of the top ten most resilient countries. Unlike Iran and Cuba, there was a sufficient amount of bi-directional economic data available to accurately represent Saudi Arabia's existing economic relationship with China. Similar to the seemingly anomalous country vulnerability scores generated for Japan and South Korea, which were largely inconsistent with regional vulnerability trends, the inconsistency of Saudi Arabia's vote solidarity percentage and country vulnerability can be better understood when assessing their relationship through pointed qualitative research. According to several published works by subject matter experts, prominent think-tanks, and various mainstream news articles, China and Saudi Arabia have a uniquely robust economic relationship that has been expanding in recent years. For example, China and Saudi Arabia's economic relationship was estimated to be worth approximately $85 billion in 2017 and is mainly composed of bi-lateral exchanges within the energy sector, further solidifying Saudi Arabia's position as China's most prolific supplier of energy resources.[17] In 2010 China surpassed the United States as the largest purchaser of Saudi oil exports.[18] More recent articles from 2018 and 2019 indicate that China and Saudi are continuously

strengthening their economic ties and discuss subsequent developments in the Sino-Saudi economic relationship with similar overarching themes, in which trade and investment in the oil and natural gas industry appear to consistently dominate the expanding bi-lateral economic exchange between the two countries. [19]

In light of this research, both Saudi Arabia's low vulnerability score and high vote solidarity with China begin to make sense and my results appear to accurately reflect a relatively balanced, somewhat co-dependent Sino-Saudi economic relationship. In addition to Saudi Arabia possessing a relatively strong, stable economy, China's leverage in the relationship does not outmatch its significant need for foreign energy resources that are largely provided by Saudi oil exports. Given China's lack of energy interdependence, it is just as unlikely that China would be willing to risk targeting Saudi Arabia with economic coercion as the possibility that any such attempt would be capable of successfully pressuring Saudi Arabia to subjugate the pursuit of its own interests to benefit that of China.

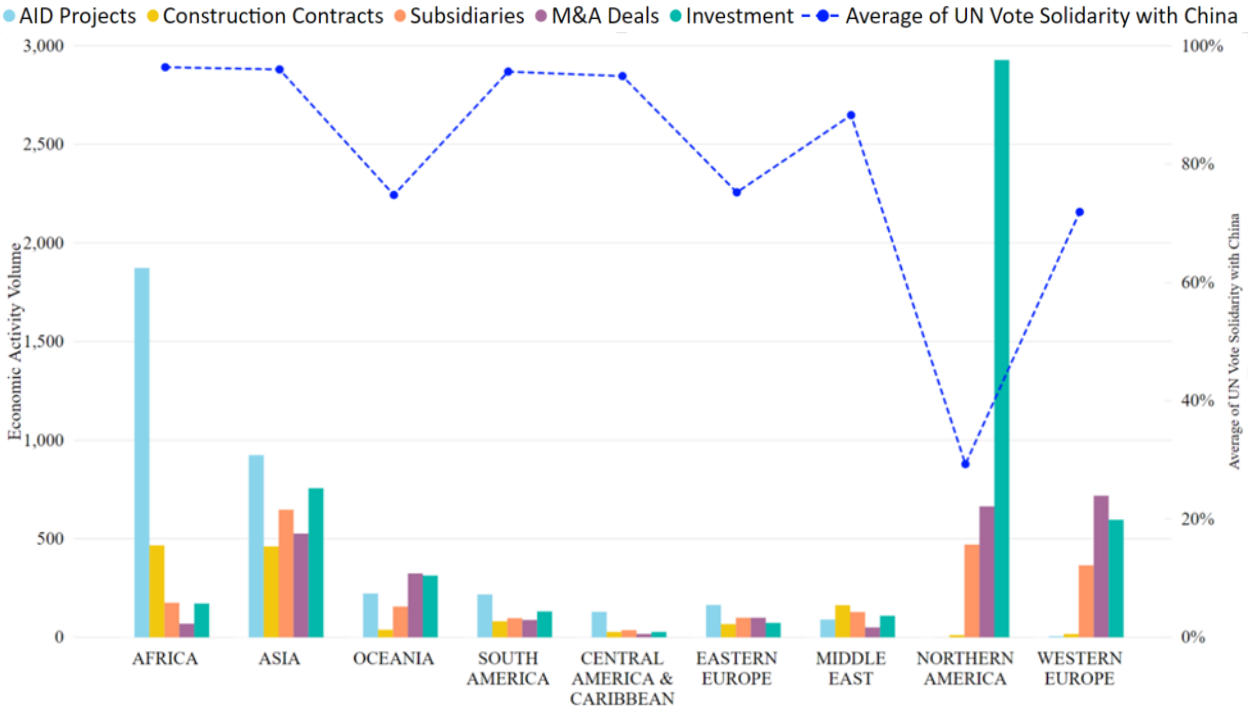
When analyzing a comparative graph visual of the UN vote solidarity percentages of the top ten most vulnerable and resilient countries by Chinese economic engagement type (Figure 8 – See on next page), country vote solidarity with China at the UN fluctuates from most vulnerable to most resilient countries similarly, yet in the opposite direction to that of GDP per Capita previously shown in Figure 2.

FIGURE 8: TOP 10 VULNERABLE & RESILIENT COUNTRY COMPARISON BY ECONOMIC ACTIVITY VOLUME (2007 – 2019) & UN VOTE SOLIDARITY WITH CHINA (2007 – 2017)



Additionally, there appears to be a similar upward-trending relationship between higher percentages of vote solidarity with higher volumes of Chinese aid projects and construction contracts that I previously identified for both country vulnerability and economic strength in GDP per Capita. These same trends are also apparent in comparative global visualizations of Chinese economic activity volume and average vote solidarity percentage of world regions listed in descending order from highest to lowest average country vulnerability. (Figure 9)

FIGURE 9: ECONOMIC ACTIVITY VOLUME (2007 – 2019) & AVERAGE UN VOTE SOLIDARITY WITH CHINA (2007 – 2017) BY WORLD REGION



As the above figure shows, average vote solidarity per region generally rises in accordance with increasing regional averages in country vulnerability and more specifically, rising volumes of Chinese aid projects and construction contracts, two of the alleged main ingredients of Chinese debt-trap diplomacy. Given that my focused top ten country results and assessment of regional averages both support this hypothesis, I argue that my findings on country vote solidarity further support the accuracy of my methodology and provide sufficient evidence to suggest that there is a positive correlative relationship between my quantification of country vulnerability to Chinese economic influence and country solidarity with China at the UN. When compared to my previous

regional visualization in Figure 3, the observable regional trends in average vote solidarity with China fluctuate in the same way towards more vulnerable world regions as average GDP per Capita, albeit in opposite direction. Similar with my initial hypothesis that regional economic strength represented by average country GDP per Capita would increase as regional averages of country vulnerability decreased, I anticipated that the regional averages of UN vote solidarity with China would increase as regional averages of country vulnerability increased.

While regional averages in vote solidarity do not increase as smoothly with rising regional vulnerability scores as was seen in decreasing regional averages in GDP per Capita, the trends identified in my findings show certain observable similarities which deserve to be characterized as those holding statistical significance. For instance, Africa and Asia dominate regional averages in vote solidarity just as they demonstrated the highest averages for country vulnerability and lowest regional averages of country GDP per Capita. This, in addition to regional vote solidarity rising with increasing regional volumes of Chinese aid projects and construction contracts, further supports the claim that the composition of Chinese economic engagement is specifically tailored to each individual target country to yield the maximum degree of influence.

Conclusions

Overall, I conclude the findings of my research, including the generated country vulnerability scores of my methodology, the identified trends in Chinese economic activity, and the apparent impacts of country vulnerability on state behavior, collectively suggest that China's current priority targets for economic influence efforts are Asian countries within its near-abroad. This finding is notably consistent with the realist concept of regional hegemonic power that was popularized by John Mearshimer in his 2001 work, "*The Tragedy of Great Power Politics*". In this work, Mearshimer argues that emerging states, like modern-day China, first seek to establish regional hegemony in their immediate geographic periphery through dominating neighboring countries and bordering maritime regions before it is capable of challenging the supremacy of the current nation-state, like the United States, with global hegemonic status.[20] China's apparent economic focus within its Asian periphery reflected by the findings of my methodology are also consistent with scholars Pranab Bardhan and William J. Norris, who both argue that one of China's primary strategic objectives is to strengthen its financial ties and trade relationships with countries in its near abroad and solidify its position as the dominant economic power in Asia. [21]

My findings also demonstrate China's heightened interest in Africa and Latin America, representing a concerted Chinese effort in expanding its economic influence and geopolitical reach to low-GDP countries throughout these regions. As was demonstrated in the country vulnerability scores generated by my methodology and subsequent analysis of notable trends observed in Chinese economic activity, China is increasing its physical footprint in vulnerable developing third-world countries by establishing high volumes of Chinese-owned subsidiary locations and is actively seeking to subjugate weak global economies through exploitative economic engagement methods. According to my research, these methods most commonly include high volumes of International Aid Projects and Construction Contracts that specifically target poor developing countries for the purpose of placing them in insurmountable debt to the Chinese state-owned entities, effectively providing the Chinese government with the financial leverage necessary to further various economic, geopolitical, and military interests in the country and the surrounding region.

For instance, the African countries identified with the highest vulnerability scores and found to have the greatest risk exposure to Chinese economic influence efforts are considered to be the amongst the most financially weak developing nations in the world. According to open-source media reports and published works by subject-matter experts on Africa's economy, the same African countries experiencing the highest volumes of exploitative Chinese economic engagement are those constantly challenged by unstable political systems, ethnic violence, terrorism, disease, low-literacy rates, and underdeveloped energy, transportation, and telecommunications infrastructure. Along with their heavy reliance, and in some cases, outright dependency on foreign aid, these African countries have severely limited financial resources and are known to have a high tendency of placing themselves in debilitating financial debt in foreign currencies; significantly more so than developing countries in other world regions. This further exacerbates their persistent economic woes by dramatically limiting their negotiating power in international trade relationships.

Due to these and several other complex historical and socio-economic factors, African countries are also generally considered to be highly vulnerable in terms of its risk exposure to fluctuations in the global economy as well as foreign attempts to exert economic influence in the region. I argue that China fully understands these regional nuances and economic disadvantages unique to struggling African nations, yet instead of contributing to their own economic growth and sustainable development, the nature of Chinese economic activity observed in these countries suggests China primarily seeks to exploit Africa's inherent economic weaknesses as well as their tendency to depend on wealthier foreign nations. While this was most apparent in Africa, this same behavioral trend is also apparent in China's economic engagement with weak economies in other developing world regions, such Latin America and the Caribbean.

Given the consistency of my quantitative findings with accepted qualitative realities, I argue that the data-driven methodology I created not only produces accurate representations of China's targeted use of exploitative economic engagement in vulnerable countries but offers an objective, non-biased view of China's geo-strategic priorities. Since the methodology is dynamic, country vulnerability scores are subject to change based upon continuous inputs of new data encompassing fluctuations in outward-facing Chinese economic activity, inward-facing foreign economic activity in China, country GDP, and UN voting data.

Once enhanced with automation, live data streaming, change-detection alerting, additional economic data sources, and classified government information, I argue that national security analysts leveraging this methodology to assess threats associated with expanded Chinese global influence will be capable of yielding more accurate, timely, and actionable intelligence information provided to US policymakers. In the hands of intelligence community professionals with subject-matter expertise on China-related topics, such an improved version of my methodology can objectively identify the most at-risk countries exposed to Chinese economic influence and prioritize those requiring proportionally increased intelligence collection efforts. Additionally, if the methodology is automated and further enhanced through the introduction of live data feeds, analysts would be able to actively monitor notable changes in country risk scores and quickly contextualize detected changes through isolating the specific shift in Chinese economic activity that prompted a significant increase or decrease in a country vulnerability.

Without applying a flexible, objective, and repeatable quantitative methodology capable of continuously monitoring changes in country vulnerability to Chinese influence, detecting trends in global Chinese economic activity, and identifying the resulting correlative impacts on state behavior, US policy makers will be inhibited in their efforts to appropriately divert intelligence community collection requirements to the countries and world regions exposed to the greatest Chinese influence risks and restricted in their capability to develop informed policy decisions on the matter. The absence of non-biased, data-driven insights related to the threat of Chinese economic influence increases the chances that any future policy responses initiated to address the issue would be of a reactionary nature, and therefore, more likely to be ineffective in mitigating the threat before it becomes unmanageable and results in a volatile geopolitical crisis or dangerous military confrontation. Overall, the application of this methodology has the potential to increase the agility of the US intelligence community and facilitates more proactive responses to changes in the threat environment of China-related national security issues.

References

Appendix A

All Country Vulnerability Scores with GDP, Calculated Net Difference Values, & UN Vote History

(Negative $ Values in Highlight in Red)

Country	*Vulnerability Score*	*World Region*	*Total GDP*	*GDP per capita*	*Dollar Net Difference Value*	*Volume Net Difference Value*	*Trade Dollar Value Net Difference*	*Cohesive UN Votes*	*Oppositional UN Votes*	*Cohesive UN Vote %*	*Oppositional UN Vote %*
Cambodia	756	ASIA	$20,016.75	$3,700	$312,885.33	190	$28,980,844.67	653	15	97.75%	2.25%
Liberia	752	AFRICA	$2,101.00	$900	$14,187.22	80	$22,711,570.58	549	43	92.74%	7.26%
Vietnam	731	ASIA	$205,276.17	$6,400	$1,700,281.07	127	$228,123,129.79	660	8	98.80%	1.20%
Pakistan	719	ASIA	$278,913.37	$5,100	$1,003,826.46	199	$71,496,601.91	636	9	98.60%	1.40%
Nepal	714	ASIA	$21,131.98	$2,500	$145,395.81	96	$15,957,399.34	641	15	97.71%	2.29%
Niger	707	AFRICA	$7,528.39	$1,100	$41,439.47	51	$11,041,622.73	574	8	98.63%	1.37%
Kyrgyzstan	706	CENTRAL ASIA	$6,551.29	$3,500	$77,097.18	40	$51,668,314.33	619	15	97.63%	2.37%
Mozambique	696	AFRICA	$11,014.86	$1,200	$77,645.76	73	$5,322,792.30	636	16	97.55%	2.45%
Tanzania	696	AFRICA	$47,340.07	$3,100	$136,334.42	109	$17,069,249.53	619	16	97.48%	2.52%
Nigeria	691	AFRICA	$404,652.72	$5,900	$731,091.31	101	$132,271,483.68	628	11	98.28%	1.72%
Ethiopia	690	AFRICA	$72,374.22	$1,900	$126,115.91	123	$16,195,676.27	603	10	98.37%	1.63%
Bangladesh	689	ASIA	$221,415.16	$3,900	$180,703.12	107	$91,556,472.32	670	14	97.95%	2.05%
Sudan	689	AFRICA	$95,584.38	$4,400	$403,362.21	97	$22,241,082.02	665	10	98.52%	1.48%
Kenya	687	AFRICA	$70,529.01	$3,400	$118,731.81	118	$31,263,346.31	602	10	98.37%	1.63%
Ghana	684	AFRICA	$42,689.78	$4,400	$115,420.94	104	$26,665,965.08	562	24	95.90%	4.10%
Tajikistan	681	CENTRAL ASIA	$6,951.66	$3,000	$101,280.18	36	$13,872,844.70	618	16	97.48%	2.52%
Myanmar	678	ASIA	$63,225.10	$5,800	$395,788.59	70	$22,174,891.37	620	5	99.20%	0.80%
Togo	671	AFRICA	$4,400.00	$1,600	$12,393.05	37	$17,403,861.57	586	26	95.75%	4.25%
Guinea	671	AFRICA	$8,200.25	$1,300	$40,391.47	41	$6,289,441.78	633	13	97.99%	2.01%

Cameroon	669	AFRICA	$32,217.50	$3,200	$151,379.66	97	$5,691,143.39	416	12	97.20%	2.80%
Indonesia	669	ASIA	$932,259.18	$11,700	$4,686,648.01	212	$79,538,310.84	667	15	97.80%	2.20%
Uganda	663	AFRICA	$24,078.93	$2,100	$123,687.19	75	$5,000,081.83	561	7	98.77%	1.23%
Chad	663	AFRICA	$9,600.76	$2,400	$390,742.01	30	$1,894,607.45	367	18	95.32%	4.68%
Ukraine	656	EASTERN EUROPE	$93,270.48	$8,300	$162,013.56	48	$415,962,491.54	394	154	71.90%	28.10%
Tonga	654	OCEANIA	$401.56	$5,400	$281.85	45	$16,857,577.22	386	27	93.46%	6.54%
Uzbekistan	649	CENTRAL ASIA	$67,220.34	$6,600	$765,917.77	57	$7,496,662.71	589	12	98.00%	2.00%
Sri Lanka	645	ASIA	$81,321.88	$12,300	$154,339.26	123	$31,545,626.73	667	19	97.23%	2.77%
Laos	644	ASIA	$15,900.00	$5,700	$275,230.22	109	$252,497.86	647	8	98.78%	1.22%
Russian Federation	643	EASTERN EUROPE	$1,283,162.99	$8,748	$1,528,055.14	89	$45,767,220.91	564	32	94.63%	5.37%
Benin	642	AFRICA	$8,583.03	$2,100	$14,643.15	22	$23,993,436.86	577	26	95.69%	4.31%
Mali	634	AFRICA	$14,034.98	$2,300	$49,332.98	69	$1,716,181.08	634	13	97.99%	2.01%
Ivory Coast	632	AFRICA	$36,372.61	$1,526	$53,596.58	42	$7,561,286.86	528	27	95.14%	4.86%
Zimbabwe	631	AFRICA	$16,619.96	$2,000	$121,437.38	136	$1,498,913.77	617	4	99.36%	0.64%
Syria	629	MIDDLE EAST	$59,150.00	$2,900	$439,456.56	15	$17,063,211.76	637	7	98.91%	1.09%
Rwanda	628	AFRICA	$8,376.05	$702	$1,470.26	52	$2,574,297.02	338	16	95.48%	4.52%
Madagascar	628	AFRICA	$10,001.19	$1,500	$37,062.81	25	$5,445,496.00	514	30	94.49%	5.51%
Malawi	624	AFRICA	$5,433.04	$1,100	$14,501.74	37	$1,360,723.17	536	32	94.37%	5.63%
Republic of the Congo	623	AFRICA	$7,833.51	$2,307	$130,605.34	77	$30,293,392.51	625	16	97.50%	2.50%
Sierra Leone	622	AFRICA	$3,736.59	$1,700	$33,409.99	65	$2,270,987.55	479	24	95.23%	4.77%
Senegal	612	AFRICA	$14,683.70	$2,600	$36,907.22	33	$7,996,251.32	645	20	96.99%	3.01%
Algeria	612	AFRICA	$159,049.10	$15,000	$634,622.31	42	$41,514,289.50	673	14	97.96%	2.04%
Djibouti	606	AFRICA	$1,727.00	$3,400	$2,383.67	21	$8,847,404.15	645	24	96.41%	3.59%
Turkey	605	MIDDLE EAST	$863,711.71	$24,900	$4,489,221.54	74	$109,489,312.40	471	144	76.59%	23.41%
Burundi	603	AFRICA	$3,007.03	$800	$162.35	44	$385,905.19	481	26	94.87%	5.13%
Egypt	603	AFRICA	$332,791.05	$12,600	$223,650.29	56	$72,692,883.66	657	13	98.06%	1.94%
Ecuador	602	SOUTH AMERICA	$98,613.97	$11,100	$192,719.15	53	$14,731,602.38	656	13	98.06%	1.94%
Zambia	599	AFRICA	$21,063.99	$3,900	$199,073.44	103	$15,763,769.24	624	17	97.35%	2.65%
North Korea	593	ASIA	$12,380.00	$1,700	$84,488.00	5	$6,511,450.59	604	21	96.64%	3.36%

Democratic Republic of the Congo	591	AFRICA	$35,381.78	$800	$53,267.16	61	$0.00	313	8	97.51%	2.49%
Namibia	586	AFRICA	$10,947.88	$11,300	$115,950.99	57	$790,219.80	611	13	97.92%	2.08%
Sao Tome	584	AFRICA	$342.78	$1,756	$1,750.00	8	$2,899,832.46	282	13	95.59%	4.41%
Lesotho	583	AFRICA	$2,291.32	$3,600	$22,817.75	27	$900,439.16	616	11	98.25%	1.75%
Fiji	582	OCEANIA	$4,703.63	$9,300	$23,999.74	47	$1,991,355.24	544	21	96.28%	3.72%
Mongolia	582	ASIA	$11,183.46	$12,300	$497,637.65	73	$13,473,281.73	615	21	96.70%	3.30%
Jordan	579	MIDDLE EAST	$38,654.73	$12,300	$112,073.75	31	$25,158,811.57	650	26	96.15%	3.85%
Guinea-Bissau	577	AFRICA	$1,164.94	$620	$499.45	21	$56,304.79	532	23	95.86%	4.14%
Vanuatu	573	OCEANIA	$773.50	$2,600	$196.06	24	$1,099,779.82	363	43	89.41%	10.59%
Afghanistan	571	ASIA	$19,469.02	$1,900	$7,021.71	40	$2,933,583.81	656	26	96.19%	3.81%
India	570	ASIA	$2,263,792.50	$6,600	$188,311.40	19	$395,915,485.91	611	20	96.83%	3.17%
Comoros	570	AFRICA	$616.65	$1,500	$14.46	21	$260,253.74	530	18	96.72%	3.28%
Eritrea	566	AFRICA	$2,608.00	$1,400	$14,028.73	19	$30,180.40	635	16	97.54%	2.46%
Georgia	560	EASTERN EUROPE	$14,378.02	$10,000	$95,471.24	24	$5,658,081.04	377	135	73.63%	26.37%
Guyana	557	SOUTH AMERICA	$3,502.40	$7,900	$29,008.18	24	$1,051,911.31	652	15	97.75%	2.25%
South Sudan	556	AFRICA	$9,015.22	$1,700	$4,245.47	42	$0.00	115	17	87.12%	12.88%
United Arab Emirates	555	MIDDLE EAST	$348,743.27	$67,900	$1,720,237.00	45	$242,041,353.76	651	25	96.30%	3.70%
Haiti	552	CENTRAL AMERICA & CARIBBEAN	$8,022.64	$1,800	$13,472.56	10	$2,839,119.12	499	31	94.15%	5.85%
Micronesia	551	OCEANIA	$329.90	$3,068	$48.73	29	$54,072.30	178	320	35.74%	64.26%
Colombia	551	SOUTH AMERICA	$282,462.55	$14,100	$138,060.77	39	$28,772,984.51	589	33	94.69%	5.31%
Saint Vincent and the Grenadines	548	CENTRAL AMERICA & CARIBBEAN	$770.80	$7,030	$0.00	0	$61,515,078.99	630	10	98.44%	1.56%
Bolivia	547	SOUTH AMERICA	$33,806.40	$7,200	$34,451.50	56	$1,386,772.22	635	15	97.69%	2.31%
Somalia	545	AFRICA	$6,217.00	$400	$21.75	13	$974,837.10	449	18	96.15%	3.85%
Marshall Islands	542	OCEANIA	$194.50	$3,300	$3.65	-1	$18,088,203.72	247	315	43.95%	56.05%
Maldives	540	ASIA	$4,224.21	$15,500	$17,206.43	49	$1,146,238.37	656	37	94.66%	5.34%
Morocco	538	AFRICA	$103,606.32	$8,300	$37,604.18	26	$23,972,003.48	649	30	95.58%	4.42%

Nauru	536	OCEANIA	$102.06	$11,600	$0.00	0	$40,236,227.89	158	167	48.62%	51.38%
Suriname	535	SOUTH AMERICA	$3,278.43	$14,000	$27,960.90	11	$7,397,130.96	580	9	98.47%	1.53%
Botswana	534	AFRICA	$15,581.14	$17,000	$158,565.64	35	$1,371,404.06	609	40	93.84%	6.16%
Tunisia	532	AFRICA	$42,062.55	$11,600	$44,844.80	25	$12,409,233.81	647	26	96.14%	3.86%
Gambia	530	AFRICA	$964.60	$1,700	$0.00	0	$2,178,735.90	422	15	96.57%	3.43%
Jamaica	529	CENTRAL AMERICA & CARIBBEAN	$14,056.91	$9,000	$18,297.48	32	$4,325,470.81	653	26	96.17%	3.83%
Central African Republic	524	AFRICA	$1,756.12	$700	$54.90	12	$109,426.08	397	25	94.08%	5.92%
Mexico	513	CENTRAL AMERICA & CARIBBEAN	$1,046,922.70	$18,900	$270,371.66	18	$184,620,641.21	607	46	92.96%	7.04%
Hungary	513	EASTERN EUROPE	$125,816.64	$27,500	$172,419.00	19	$49,097,189.04	390	167	70.02%	29.98%
Belarus	511	EASTERN EUROPE	$47,407.22	$18,000	$96,687.59	58	$1,619,459.80	617	10	98.41%	1.59%
Nicaragua	509	CENTRAL AMERICA & CARIBBEAN	$13,230.84	$5,500	$14,032.00	5	$6,444,652.49	669	13	98.09%	1.91%
Papua New Guinea	506	OCEANIA	$20,213.21	$3,500	$5,413.50	55	$1,257,041.01	526	32	94.27%	5.73%
Kiribati	505	OCEANIA	$181.55	$1,800	$0.00	0	$176,463.48	211	40	84.06%	15.94%
Tuvalu	505	OCEANIA	$34.22	$3,500	$0.00	0	$4,466,558.05	453	38	92.26%	7.74%
Mauritius	504	AFRICA	$12,168.44	$20,400	$70,459.60	19	$5,855,849.07	635	23	96.50%	3.50%
Azerbaijan	503	CENTRAL ASIA	$37,847.72	$17,400	$438,870.17	10	$5,274,436.18	621	20	96.88%	3.12%
Barbados	503	CENTRAL AMERICA & CARIBBEAN	$4,529.05	$17,100	$115,961.74	11	$681,483.87	635	33	95.06%	4.94%
Mauritania	499	AFRICA	$4,739.30	$4,300	$1,969.98	31	$6,015,305.70	625	21	96.75%	3.25%
Angola	499	AFRICA	$95,335.11	$6,800	$127,145.70	99	$192,925,775.85	588	12	98.00%	2.00%
Libya	499	AFRICA	$34,700.00	$8,700	$558,512.10	18	$6,479,412.87	649	20	97.01%	2.99%
Samoa	498	OCEANIA	$786.36	$5,500	$198.46	12	$1,422,250.71	524	52	90.97%	9.03%
Argentina	498	SOUTH AMERICA	$545,476.10	$20,000	$634,294.02	26	$10,598,067.56	619	49	92.66%	7.34%
Cape Verde	498	AFRICA	$1,617.00	$6,700	$343.50	12	$454,695.61	606	36	94.39%	5.61%
Kazakhstan	498	CENTRAL ASIA	$137,278.32	$25,100	$1,464,206.23	87	$434,762.81	642	29	95.68%	4.32%

Yemen	496	MIDDLE EAST	$27,317.61	$2,400	$23,994.38	33	$8,828,523.02	638	21	96.81%	3.19%
Palau	486	OCEANIA	$310.25	$15,400	$0.00	0	$15,136,416.80	182	341	34.80%	65.20%
Venezuela	483	SOUTH AMERICA	$371,000.00	$13,800	$802,152.20	83	$36,693,753.77	658	15	97.77%	2.23%
Moldova	482	EASTERN EUROPE	$6,749.52	$5,300	$104.19	12	$894,976.96	396	143	73.47%	26.53%
Panama	482	CENTRAL AMERICA & CARIBBEAN	$55,187.70	$23,000	$132,711.00	-1	$123,274,359.26	547	70	88.65%	11.35%
Dominica	478	CENTRAL AMERICA & CARIBBEAN	$581.48	$11,300	$164.99	11	$374,917.32	371	14	96.36%	3.64%
Antigua and Barbuda	477	CENTRAL AMERICA & CARIBBEAN	$1,460.14	$14,353	$1,106.89	7	$4,232,210.49	618	20	96.87%	3.13%
Albania	477	EASTERN EUROPE	$11,863.87	$11,800	$10,004.42	22	$1,682,686.65	393	150	72.38%	27.62%
Philippines	476	ASIA	$304,905.41	$7,700	$367,835.73	40	$15,220,503.76	650	17	97.45%	2.55%
Portugal	475	WESTERN EUROPE	$205,184.48	$28,900	$501,190.18	10	$14,505,348.02	408	155	72.47%	27.53%
Greece	475	WESTERN EUROPE	$192,690.81	$26,700	$69,163.75	20	$36,515,513.87	426	137	75.67%	24.33%
Equatorial Guinea	475	AFRICA	$10,684.80	$38,600	$151,921.33	49	$13,643,366.53	274	12	95.80%	4.20%
Poland	470	EASTERN EUROPE	$471,364.41	$27,800	$348,956.23	5	$90,614,352.77	391	167	70.07%	29.93%
Seychelles	467	AFRICA	$1,427.32	$27,600	$109,069.61	2	$384,572.13	272	19	93.47%	6.53%
Brunei	467	ASIA	$11,400.00	$26,938	$37,249.00	12	$5,506,623.78	675	12	98.25%	1.75%
Trinidad and Tobago	465	CENTRAL AMERICA & CARIBBEAN	$21,894.71	$31,900	$90,398.76	26	$2,021,729.67	638	18	97.26%	2.74%
Thailand	463	ASIA	$407,026.13	$16,900	$2,503,107.02	66	$43,253,231.14	647	21	96.86%	3.14%
Costa Rica	463	CENTRAL AMERICA & CARIBBEAN	$57,435.51	$16,400	$390,446.20	37	$20,069,589.98	634	50	92.69%	7.31%
Peru	462	SOUTH AMERICA	$192,207.34	$12,900	$264,281.60	50	$28,130,108.35	610	48	92.71%	7.29%
Burkina Faso	460	AFRICA	$11,693.24	$1,800	$13,239.00	1	$251,769.80	609	25	96.06%	3.94%
Guatemala	457	CENTRAL AMERICA & CARIBBEAN	$68,763.26	$7,900	$13,939.00	2	$13,894,128.35	611	46	93.00%	7.00%
Paraguay	456	CENTRAL AMERICA & CARIBBEAN	$27,424.07	$9,400	$13,239.00	1	$11,394,911.09	556	39	93.45%	6.55%

Czech Republic	455	EASTERN EUROPE	$195,305.08	$33,200	$57,223.67	16	$54,354,908.13	390	177	68.78%	31.22%
Bosnia and Herzegovina	452	EASTERN EUROPE	$16,910.28	$11,000	$24,270.80	10	$631,221.96	412	137	75.05%	24.95%
Bahrain	450	MIDDLE EAST	$32,179.07	$50,700	$249,669.00	6	$7,407,435.15	654	28	95.89%	4.11%
Brazil	450	SOUTH AMERICA	$1,796,186.59	$15,200	$494,807.56	125	$143,242,750.33	650	31	95.45%	4.55%
Macedonia	449	EASTERN EUROPE	$10,899.58	$14,600	$25,801.43	15	$59,734.81	297	112	72.62%	27.38%
Cuba	447	CENTRAL AMERICA & CARIBBEAN	$87,132.80	$11,900	$23,334.60	12	$6,671,709.91	660	4	99.40%	0.60%
Gabon	447	AFRICA	$14,213.56	$19,100	$54,543.55	39	$7,464,386.70	440	25	94.62%	5.38%
Honduras	445	CENTRAL AMERICA & CARIBBEAN	$21,516.94	$5,300	$350.00	1	$5,294,529.99	559	54	91.19%	8.81%
Solomon Islands	444	OCEANIA	$1,202.13	$2,000	$0.00	0	$2,943,079.50	614	41	93.74%	6.26%
Armenia	442	EASTERN EUROPE	$10,572.30	$8,600	$13,262.05	4	$233,833.22	532	24	95.68%	4.32%
Bulgaria	439	EASTERN EUROPE	$53,237.88	$20,300	$61,143.00	13	$4,898,139.97	390	158	71.17%	28.83%
Grenada	436	CENTRAL AMERICA & CARIBBEAN	$1,056.19	$14,100	$119.49	8	$85,994.53	511	29	94.63%	5.37%
Qatar	434	MIDDLE EAST	$152,451.92	$127,700	$380,129.00	19	$7,199,379.95	652	20	97.02%	2.98%
El Salvador	433	CENTRAL AMERICA & CARIBBEAN	$26,797.47	$8,900	$13,239.00	1	$4,626,342.39	604	41	93.64%	6.36%
New Zealand	432	OCEANIA	$184,970.68	$37,300	$561,748.91	50	$13,217,303.56	436	139	75.83%	24.17%
Saint Lucia	428	CENTRAL AMERICA & CARIBBEAN	$1,379.00	$7,744	$0.00	0	$151,330.87	641	27	95.96%	4.04%
Bhutan	425	ASIA	$2,212.64	$8,200	$0.00	0	$107,372.63	611	24	96.22%	3.78%
Singapore	418	ASIA	$296,975.68	$87,900	$2,341,894.95	-2532	$178,441,308.78	661	11	98.36%	1.64%
Latvia	408	EASTERN EUROPE	$27,572.70	$25,700	$13,351.00	3	$10,435,395.66	388	163	70.42%	29.58%
Turkmenistan	408	CENTRAL ASIA	$36,179.89	$17,500	$347,550.34	10	$37,982,876.51	537	12	97.81%	2.19%
Malta	407	WESTERN EUROPE	$10,999.05	$39,900	$22,461.16	-3	$13,267,231.30	442	139	76.08%	23.92%
Belize	405	CENTRAL AMERICA & CARIBBEAN	$1,741.10	$8,200	$17.00	-4	$626,774.03	631	38	94.32%	5.68%

Canada	401	NORTHERN AMERICA	$1,535,767.74	$46,400	$3,182,935.62	-3295	$91,063,079.54	255	335	43.22%	56.78%
Montenegro	398	EASTERN EUROPE	$4,374.13	$16,600	$2,126.26	5	$0.00	405	148	73.24%	26.76%
Dominican Republic	394	CENTRAL AMERICA & CARIBBEAN	$71,583.55	$16,000	$13,239.00	1	$8,984,833.00	656	29	95.77%	4.23%
American Samoa	394	OCEANIA	$658.00	$13,000	$6.00	-1	$11,583.24	524	52	90.97%	9.03%
Cyprus	390	MIDDLE EAST	$20,047.01	$35,000	$1,120.98	5	$9,650,778.80	444	144	75.51%	24.49%
Bahamas	386	CENTRAL AMERICA & CARIBBEAN	$11,261.80	$24,600	$5,389.73	-1	$5,593,556.24	627	39	94.14%	5.86%
Uruguay	386	SOUTH AMERICA	$52,419.72	$21,500	$23,492.31	19	$381,547.76	635	40	94.07%	5.93%
Saint Kitts & Nevis	386	CENTRAL AMERICA & CARIBBEAN	$916.90	$16,725	$0.00	0	$70,925.05	428	23	94.90%	5.10%
Lithuania	382	EASTERN EUROPE	$42,773.03	$30,000	$13,194.00	2	$12,350,631.01	390	165	70.27%	29.73%
Swaziland	379	AFRICA	$3,720.65	$9,800	$0.00	0	$27,412.87	502	10	98.05%	1.95%
Lebanon	377	MIDDLE EAST	$49,598.83	$18,500	$1.22	5	$17,281,426.62	641	17	97.42%	2.58%
Iran	373	ASIA	$418,976.68	$18,100	$135,436.14	40	$68,539,147.21	635	4	99.37%	0.63%
Slovakia	371	EASTERN EUROPE	$89.55	$31,300	$163.00	1	$188,519.49	397	164	70.77%	29.23%
Iraq	368	MIDDLE EAST	$171,489.00	$17,900	$59,140.37	35	$50,259,457.17	656	24	96.47%	3.53%
Slovenia	357	EASTERN EUROPE	$44,708.60	$32,100	$781.00	1	$11,379,831.81	405	158	71.94%	28.06%
Luxembourg	355	WESTERN EUROPE	$58,631.32	$104,000	$85,548.71	-1261	$18,837,344.67	402	161	71.40%	28.60%
Romania	354	EASTERN EUROPE	$187,592.04	$22,300	$58,336.00	15	$0.00	390	152	71.96%	28.04%
Croatia	350	EASTERN EUROPE	$50,714.96	$22,800	$58.00	3	$12,573,415.46	390	150	72.22%	27.78%
Estonia	322	EASTERN EUROPE	$23,337.91	$29,300	$0.17	-2	$8,482,460.75	397	163	70.89%	29.11%
San Marino	307	WESTERN EUROPE	$1,590.71	$59,500	$0.00	0	$65,239.46	417	144	74.33%	25.67%
South Africa	301	AFRICA	$295,456.19	$13,200	$189,938.52	-435	$140,651,279.18	644	18	97.28%	2.72%
Malaysia	297	ASIA	$296,535.93	$27,300	$1,698,656.04	-333	$124,539,038.63	668	19	97.23%	2.77%
Andorra	289	WESTERN EUROPE	$2,858.52	$49,900	$0.15	-1	$56,897.43	398	144	73.43%	26.57%
Israel	278	MIDDLE EAST	$317,744.78	$35,200	$195,909.88	-85	$56,768,211.66	107	490	17.92%	82.08%

Spain	269	WESTERN EUROPE	$1,237,255.02	$36,400	$124,906.37	-234	$153,985,566.88	408	159	71.96%	28.04%
Belgium	260	WESTERN EUROPE	$467,955.71	$45,000	$309,334.26	-412	$100,976,538.15	394	165	70.48%	29.52%
Oman	258	MIDDLE EAST	$66,293.37	$46,700	$23,638.00	5	$118,276,007.12	668	17	97.52%	2.48%
Finland	252	WESTERN EUROPE	$238,677.67	$42,200	$2,698,309.39	-433	$26,811,674.57	401	150	72.78%	27.22%
Chile	251	SOUTH AMERICA	$247,027.91	$24,100	$80,723.08	-42	$67,505,213.22	637	51	92.59%	7.41%
Kuwait	251	MIDDLE EAST	$110,875.58	$71,900	$176,987.89	-5	$45,428,702.86	652	18	97.31%	2.69%
Italy	248	WESTERN EUROPE	$1,859,383.61	$36,800	$1,906,500.53	-687	$154,417,176.33	402	162	71.28%	28.72%
Denmark	241	WESTERN EUROPE	$306,899.65	$48,000	$1,561,614.10	-804	$32,539,924.14	396	168	70.21%	29.79%
Netherlands	239	WESTERN EUROPE	$777,227.54	$51,000	$4,160,571.29	-1685	$465,833,883.70	391	170	69.70%	30.30%
Iceland	238	WESTERN EUROPE	$20,304.10	$49,200	$2,786.85	-5	$534,149.70	409	149	73.30%	26.70%
Monaco	237	WESTERN EUROPE	$6,075.00	$115,700	$4,100.00	-5	$0.00	378	152	71.32%	28.68%
Liechtenstein	231	WESTERN EUROPE	$6,289.17	$139,100	$1,370.23	-96	$0.00	421	144	74.51%	25.49%
Australia	224	OCEANIA	$1,204,616.44	$48,900	$1,335,574.50	-2162	$306,370,204.21	325	242	57.32%	42.68%
United Kingdom	224	WESTERN EUROPE	$2,650,850.18	$42,500	$8,173,156.89	-9898	$385,938,909.22	330	235	58.41%	41.59%
France	222	WESTERN EUROPE	$2,465,453.98	$42,300	$8,786,284.63	-2414	$106,977,862.38	339	194	63.60%	36.40%
United States	205	NORTHERN AMERICA	$18,624,475.00	$57,400	$254,922,928.30	-32124	$2,121,905,334.04	95	525	15.32%	84.68%
Saudi Arabia	174	MIDDLE EAST	$646,438.38	$55,200	$1,242,894.00	36	$224,244,332.34	637	27	95.93%	4.07%
Sweden	156	WESTERN EUROPE	$514,459.97	$49,800	$1,793,545.08	-1162	$4,082,010.87	416	143	74.42%	25.58%
Austria	105	WESTERN EUROPE	$390,799.99	$48,000	$419,006.38	-325	$16,790,474.05	424	138	75.44%	24.56%
Ireland	102	WESTERN EUROPE	$304,819.02	$69,200	$1,651,153.89	-545	$5,119,446.97	417	141	74.73%	25.27%
Norway	97	WESTERN EUROPE	$371,075.24	$69,200	$324,067.46	-727	$3,292,220.94	402	144	73.63%	26.37%
South Korea	56	ASIA	$1,411,245.59	$37,700	$5,249,788.56	-2447	$606,164,227.01	381	110	77.60%	22.40%
Germany	48	WESTERN EUROPE	$3,477,796.27	$48,100	$12,637,817.35	-2762	$33,248,091.30	393	175	69.19%	30.81%
Japan	44	ASIA	$4,949,273.34	$41,300	$40,985,074.62	-5382	$99,712,211.27	426	121	77.88%	22.12%
Switzerland	39	WESTERN EUROPE	$668,851.30	$59,600	$10,818,759.60	-3946	$189,907,486.92	423	138	75.40%	24.60%

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URL: https://www.reuters.com/article/us-vietnam-protests/china-warns-citizens-in-vietnam-after-protests-over-economic-zones-idUSKBN1J70NS

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Curriculum Vitae

Dedicated intelligence professional with hands-on analytic and defense contract business development experience involving direct engagement and coordination with various agencies within the United States Intelligence Community (IC) and intelligence-focused components of the US Department of Defense (DOD).

EDUCATION

M.A. in Global Security Studies May 2020 – Krieger School of Arts & Sciences Advanced Academic Programs, Johns Hopkins University

B.S. in Political Science, December 2015 – College of Liberal Arts, Towson University

Diploma in International Relations, December 2014 – Semester in Washington Program, Georgetown University

PROFESSIONAL EXPERIENCE

Thomson Reuters Special Services (TRSS): March 2016 – Present

- Government Analyst I (March 2016 –April 2019)
- Government Analyst II (April 2019 – October 2019)
- Business Delivery Manager (October 2019 – Present)

As a Government Analyst I and II at TRSS, I leveraged proprietary economic data, public records, various analytic tools, and open source research to assist government clients in various analytic endeavors such as private sector risk, economic sector forecasting, social media trend analysis, targeting and network analysis, sanctions compliance, foreign economic influence, counterintelligence risk, locational threat assessments, executive protection, and geopolitical trend analysis. Additionally, I worked extensively with other analysts, data scientists, software engineers, and business development leads to generate proof of concept (POC) reports showcasing new ways to leverage TRSS proprietary, third-party, and open-source data sets in response to evolving client needs on emerging topics and/or trends with significant national security implications.

In my current role as a Business Delivery Manager at TRSS, I apply my extensive knowledge of the company's services acquired during my 5-year tenure as a high-performing TRSS analyst and interpersonal skills to directly serve the Business Development team in expanding the TRSS customer base as well as maintain existing clientele within the US Intelligence Community. My responsibilities include identifying new business opportunities and prospective clients, building industry partnerships, identifying and vetting prospective external TRSS consultants, project management and quality control of services provided to existing customers, developing proof of concept (POC) reports for potential new customers, identifying new technologies and data resources to bolster TRSS capabilities, and engaging in internal development projects intended to streamline or expand existing company services and/or product offerings.

UNDERGRADUATE INTERNSHIPS

Analysis Intern at Thomson Reuters Special Services (TRSS): May 2015 – February 2016

As an analysis intern at Thomson Reuters Special Services, LLC, a cleared U.S. defense contractor, I assisted the analysis department in their mission to deliver a comprehensive suite of solutions that are designed to help professionals achieve mission objectives, address uncertainty, and identify and manage risk. In support of an analyst team of intelligence professionals, we aimed to leverage Thomson Reuters' market-leading solutions to help our clients perform intelligence collection and analysis in the topic areas of international politics, social media, military, threat finance, insider threat, risk management, cybersecurity, counterintelligence, targeting and network analysis, and identity analysis.

Operations Intern at the Washington Regional Threat & Analysis Center (WRTAC):
January 2015 – April 2015

Assisted Washington Regional Threat and Analysis Center (WRTAC), the sole Fusion Center for Washington DC, as an Operations Intern in their mission to ensure the domestic security of the District of Columbia and greater National Capital Region through producing intelligence products for local consumers and facilitating interagency coordination between federal, state and local entities. Highlights from my internship include:

- Produced and briefed strategic and tactical intelligence reports on various threats that were determined to have a direct nexus to the residents, local law enforcement, federal agencies, government buildings, national monuments, and US government employees located throughout the Washington DC metro area. Disseminated finished intelligence products to the greater U.S. intelligence community through the Homeland Security Information Network (HSIN)

- Assisted in Mutual Agency Cooperation Center (MACC) threat monitoring effort on behalf of the WRTAC for the Presidential State of the Union Address on January 20, 2015.

- Facilitated interagency coordination and information sharing efforts through managing fusion center "open house" events where various local and federal agencies would learn about the WRTAC functional capabilities and assist in our mission to protect Washington D.C. and the greater National Capitol Region.

Intelligence Bureau Intern at the New Jersey office of Homeland Security & Preparedness (NJOHSP): May 2014 – August 2014

OHSP is the Governor's Directorate office for homeland security and disaster preparedness in the state of New Jersey. During my position as an Intelligence Bureau intern at OHSP, I aassisted the agency's intelligence apparatus located at the Regional Operations Intelligence Center (ROIC), New Jersey's sole Fusion Center, in research and analysis efforts related to the production and dissemination of finished intelligence products. OHSP intelligence reports were intended to ensure the domestic security of the State of New Jersey by providing the residents of New Jersey, NJ State Police, municipal police departments, and regionally located offices of US federal law enforcement and intelligence agencies with relevant information regarding active national security threats with a nexus to the state and criminal activity posing credible risks to local law enforcement. Highlights from my internship include:

- Wrote a strategic intelligence product on future projections of al-Qaida and ISIS related to the developing situations in the regions of Iraq and Syria using structured analytic techniques.

- Provided tactical analysis related to domestic terrorist attacks inspired by anti-government websites and the implications for local law enforcement.

- Briefed the Regional Operations Intelligence Center (ROIC) command staff as well as FBI, ATF, and DHS liaison personnel on the anti- government inspired attacks on law enforcement and how to increase officer awareness on anti-government extremists. I also conducted impromptu briefing for a team of Federal US Marshals on the subject.

Open Source Research and Analysis Intern at the National Consortium for the Study of Terrorism & Responses to Terrorism (START): January 2014 – May 2014

The National Consortium for the Study of Terrorism and Responses to Terrorism (START) is a university-based research and education center comprised of an international network of scholars committed to the scientific study of the causes and human consequences of terrorism in the United States and around the world. START is an officially designated center of excellence by the US Department of Homeland Security and is headquartered at the University of Maryland. At START I interned as an open-source researcher and analyst on a Department of Defense funded project called PIT (Project on Illicit Trafficking). Highlights of my internship include:

- Provided detailed profile on assigned transnational criminal organizations operating in either Europe or North Africa including group history, current activities, hierarchal structure, fungible resources, illicit market presence, smuggling networks, geographic location, ideology, and the psychological/ personality traits of the group's leadership.

LANGUAGES

English (native)
Russian – Level 1 proficiency (speaking, reading, and writing)